

CHAPTERS ON MONEY

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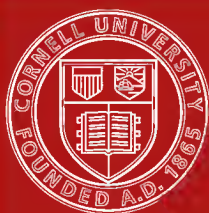
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SOME CHAPTERS ON MONEY

PRINTED FOR THE USE OF STUDENTS
IN THE UNIVERSITY OF MICHIGAN

BY
F. M. TAYLOR, PH.D.

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PREFACE.

This book is printed for the use of students in the University of Michigan, the edition being limited to three hundred copies. It does not attempt to cover the subject completely, though not many important topics are omitted. The unduly elementary treatment noticeable in some parts arises from the fact that a considerable part of the matter is taken from the manuscript of a projected text book on Money and Banking intended for less advanced students.

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INTRODUCTION.

The starting point of the study of money is to be found in certain very familiar facts of everyday life. First, we are creatures having many wants dependent for their satisfaction on our possession of certain material objects or conditions which are called by the economist commodities and services or simply *economic goods*. Secondly, our being possessed of these goods is not usually a matter of course but in nearly every case, involves supplying ourselves through the expenditure of labor or some other form of sacrifice. Thirdly, the method of supplying ourselves which we have found most successful is not for each to produce for himself all kinds of goods but rather to produce only some one kind and use it to get the rest through *exchange* from his neighbors. Now, it is at this point—this exchanging of our products for those of our neighbors—that money comes into the case. Doubtless the beginnings of exchange have always taken the form of *barter*, i. e. a direct exchanging of goods for goods. But it would always very soon appear that this method of exchange involves very *serious drawbacks*. Let us take a moment to make this plain.

If we suppose, for example, that one man has produced a surplus of wood which he wishes to exchange for a watch, it is evident that to carry out the plan it will be necessary to find someone who has a watch to dispose of and at the same time needs wood, and who, further, needs wood in an amount exactly corresponding to the value of the

watch. But to find such a coincidence may not be the easiest thing in the world, may, indeed, prove very difficult. It would not be hard to find men who want wood; but they may have no watches to dispose of. So it would be easy to find men who have watches to sell; but they may not want wood; or, if any one of them does want wood, he may want only half as much as would be needed to pay for a watch. As civilization advances these obstacles to barter become more and more serious. For, with the advance of civilization, occupations, tastes, and incomes become more diverse, and a larger and larger number of workers are devoted to producing things for which only a few of their fellows have any use whatever. For such persons—that is, for most of us—exchanging their own goods directly for all the different kinds of goods which they want would be quite out of the question. Fancy a manufacturer of steel rails, or mowing machines, or microscopes, or surgical instruments going around trying to trade his wares for sugar or flour or a suit of clothes! In any highly developed society a general use of barter is not simply inconvenient; it is ridiculously impossible.

But I hardly need to say that no highly developed society, in fact no society, tries to run its exchange on the barter plan. With the very beginnings of trade we find men making use of some *medium of exchange*—some go-between which each one seeks to get in exchange for his goods and, having gotten, uses to buy other goods. The thing specially set apart for this purpose we call *money*. With its assistance the troubles of the man who has wood to dispose of and wants a watch quickly disappear. He simply sells his wood to the different persons who want

wood ; and then, taking to the jeweler the money thus obtained, buys a watch.

Thus we find existing in the business world an institution called money which, as we can all see, is a very important factor in our lives. We are, doubtless, quite ready to believe that with respect to the nature, the working, and the management of this institution many interesting and important facts manifest themselves. It is to the study of these facts that the following chapters are devoted.

A word now as to the plan of treatment. While there is no formal division of the matter into parts, the chapters naturally fall into three groups, (1) the first and second, occupied with a *descriptive account* of money, (2) the third to the sixth inclusive, devoted to the *principles or natural laws* which regulate monetary phenomena, and (3) the seventh and eighth, given to certain problems connected with the conscious *regulation and management* of a monetary system.

CHAPTER I.

THE NATURE AND FUNCTIONS OF MONEY.

I. MONEY DEFINED.

The essential nature of money has already been brought out, though of course only in general terms, in introducing our subject. That is, money is in essence something generally and habitually employed as the medium of exchange, the go-between which men obtain with their products and, having obtained, use to obtain other products. A very slight elaboration of this statement will furnish us with a fairly adequate definition of money as follows: *Money is something which is specially designed for, and devoted to, serving as a medium of exchange, although it is also put to other uses for which it is specially fitted either because of its being a recognized medium of exchange or because of the nature of the substance of which it is made.*

Commenting on this definition, we note first that it makes money primarily and essentially a medium of exchange. If money is put to other uses, these are derivative, incidental, growing out of its nature as a medium of exchange or some peculiarity in its substance. It follows from this that money, *as money*, is wanted, not for its own sake, but only for what it will buy. Money may be made of something which is much desired for other uses, and, because it can be put to these uses, we may have a desire for it *as a substance* rather than a desire for it as money. All this is substantially true of gold coin in the United States, England, and many other countries. But money *as money* is desired only because it will buy other things. If it does this, we ask no more of it. It has played its part.

To make an application of this special point, it does not seem proper to include in the definition or general descrip-

tion of money, as some writers have done, the idea that it is a commodity of the ordinary sort, a use-commodity, meaning by this a commodity which can be put to the satisfying of our wants in its own proper person or, at least, in some way more direct than through exchange for other goods. It is conceivable that experience would show that nothing could serve as money in the fullest sense—the standard or principal money of a country—unless it was such a use-commodity;* but this fact would not belong to a *definition* of money but rather to an account of the principles which regulate the *currency* of moneys. It is of the very essence of money that people seek it, not to use it directly, but to get other things which they will use directly.

Again it is to be remarked that according to our definition ordinary commodities occasionally employed as media of exchange are not therefore money. Communities insufficiently supplied with money proper often employ as substitutes one or more kinds of goods which are common among the members of the community and for which there is always a fairly good market. Thus tobacco, cattle, corn, powder, bullets, skins, all served this purpose in the American Colonies. But none of these can quite properly be called money. Money is something *specially devoted to* this business of making exchanges. I can use a pocket knife to hold down loose papers; but this does not make it a paper weight.

Finally, money is something *specially designed* to serve as the medium of exchange, something *manufactured* for the purpose. If a community contents itself with gold dust weighed out, or measured out, at each exchange, we can not say that gold dust constitutes the money of that community. We must rather say that the community in question has not yet come to use a *true money*. That is, only gold coin is money, not gold bullion. This statement,

* Experience surely does not show anything of the sort.

however, must be so far qualified as to admit that a considerable portion of the gold bullion actually present at any moment in a country having the gold standard is to be thought of as in effect a part of the country's stock of standard money. The explanation of this is to be found in the fact that for making international payments gold in the form of bars is preferred to coin; and, therefore, the institutions which keep the funds from which such payments are made naturally keep at least a portion of those funds in the form of gold bars.

The preceding paragraphs have brought out the characteristics essential to money. We must next remark on the *inclusion* of the term, the different things to which it can properly be applied. If the student is familiar with the system of the United States, the word money will at once suggest to him various coins of gold, silver, nickel, or copper, and various "bills" such as greenbacks, bank notes, or silver certificates. He will not usually include under money checks or drafts, though he probably knows that these act in some respects as money.

Now, in interpreting thus broadly the word money, the student will represent the majority of the public and will not be falling into any serious error from the scientific point of view. Presently, indeed, it will be necessary to explain to him that of the various things in our system which we commonly call money *one only*—gold coin—is in the fullest sense money, real money, that the rest are more accurately described as in some degree *representative* moneys, credit moneys. But very likely he has already recognized this fact; and anyhow there are many connections in which he can safely ignore this distinction and treat as essentially the same—as really money—the things named above. In fact almost every writer on the subject does this, however much he may have emphasized the point that only such money as our gold coin is real money. He may indeed

take pains to prefix some qualifying adjective when applying the term money to the inferior or representative moneys. Thus he may speak of subsidiary money, token money, paper money, government money, and so on. But in doing this he seems to have recognized these as special varieties under the species money. In this book, therefore, the word money when unqualified will usually have the same extension that is given it in popular usage; that is, it will include all the things which really *circulate*—pass from hand to hand as media of exchange without endorsement—although standard money will be recognized as the only one which is money in the fullest sense.

II. MONEY AS A MEDIUM OF EXCHANGE.

The general character of the primary function of money—serving as a medium of exchange—has already been brought out in defining money. But it is desirable to go into the matter a little more fully, to make the analysis of the function more complete. An illustration which shows the precise nature of this function very clearly is furnished by the case of the farmer who comes to town with a load of wood, sells it for five dollars, and then spends the money buying groceries, dry goods, etc. What, now, are the characteristic features of this method of procedure? First, it is plain that the single transaction of barter has given place to two transactions, a sale of one goods and a purchase of another. This, however, does not quite exhaust the matter.

Between the two transactions thus substituted for the one transaction, there is necessarily an intermediate stage, an interval of waiting long or short, which gives the farmer who has sold his wood for money a chance to get himself into relation with the men from whom he is going to buy groceries and dry goods. Further, if money exchange is going to be a really great improvement over barter, this interval of waiting must be capable of indefinite

extension; for the farmer will not necessarily wish to spend the whole proceeds of his wood for groceries and dry goods or anything else *on the same day* that he sells that wood. It may easily be for his interest to separate sale and purchase by weeks or even months. For example, he will be selling wood every day during the good sleighing of mid-winter; but he will want to do the buying part of the operation all along till summer crops begin to bring in something. It is thus evident that money exchange really breaks up barter into *three* parts; viz. (1) selling goods for money, (2) keeping the money till other goods are needed, and (3) using the money to buy other goods. It is further evident that in these three stages, as looked at from the standpoint of the man who starts out with goods to sell, money plays three different parts. In the first, its rôle is that of a thing which can *be obtained* with any goods whatsoever. In the *third*, its part is that of a thing which can *obtain* any goods whatsoever. In the second, its business is to *keep—store*—this power to obtain other goods.

But just here we need to be a little careful. In trying to realize clearly that acting as a medium of exchange involves three stages, we must not fall into the mistake of supposing that money is to be thought of as a medium of exchange only when, and in so far as, it carries an exchange transaction completely through its three stages. Doubtless money has not *entirely* performed its part as a medium of exchange, till the farmer who has sold his wood for money has *also* used the money to buy shoes or something else. Still, it is performing that part in each stage of the operation. It is serving as a medium of exchange, provided it is doing for anybody any one of the three things which are essential to a complete exchange operation. That is, money is serving as a medium of exchange either (1) when a man is *getting* it in exchange for goods, or (2) when a man is *keeping* it on hand with the intention of using it at the proper time in the purchase of goods, or (3)

when he is actually *using* it to purchase goods. Or, to change the form of expression, money is a medium of exchange so long as it is *being sought after, or being kept, or being used, solely to buy goods*, either for its owner or for someone to whom he transfers it as a gift or as a means of settling an obligation. When no longer employed in one of these ways it has ceased to be a medium of exchange, and has ceased to be money.

III. MONEY AS A MEASURE OF VALUE.

We have considered the primary, essential, function of money—serving as the official medium of exchange. We must next comment briefly on a second use which at times certainly seems to be an independent function, though one which is secondary and which does not at all interfere with the employment of money as a medium of exchange. This second function is to serve as a *common measure* of value*; i. e. an instrument with which we ascertain, or in which we estimate, the quantities of value possessed by different objects, and the denominations of which we employ in stating those quantities. Of course we are all familiar with the process of mensuration in other cases. We are aware that when any object possesses some property which can vary in degree or amount, we are able to get a quantitative expression of the degree or amount of that property in the given object by comparing it with the degree or amount of that property possessed by some other object which we choose to employ as a criterion or measure. Thus, suppose I wish to get a new pane of glass to fit a particular sash and so need to measure the length of each side of the sash in order to buy a pane of the correct size. This I do easily

* Some years ago an eminent American economist, General Walker, tried hard to replace the phrase "common measure of value" with the phrase "common denominator of value." Economists generally have rightly refused to follow his lead. See problems 21 and 22 at the close of the chapter.

enough by comparing the sides of the sash with a strip of wood known as a rule, marked off into feet, inches, and fractions of inches, and seeing how many of these feet and inches are needed to make up the full length of the side measured.

The measuring of values with money is in no essential respect different. Exchange value, i. e. the power of any object to command in exchange some other object, is a property* of objects which varies in quantity; and so can be measured. Further, in order to measure it in the case of any particular object we must compare it with the same power as existing in some other object. Thus, if I am called on to estimate the value of an old-fashioned sofa belonging to an estate and conclude that it is about \$60, I have compared my conception of the value of the sofa with the value of one dollar and reached the conclusion that the former is 60 times the latter.

* Not a few writers have affirmed that value is a ratio rather than a property. There is an easy and decisive answer. A ratio can never be affirmed of a *single* object. We can not speak of the ratio of 20 and the ratio of 1; though we can speak of the ratio between 20 and 1. Twenty and one give us not two ratios but only one. Yet value is constantly affirmed of single objects and that by the very writers who call value a ratio. Thus Jevons, who is most responsible for the doctrine in question, after denouncing the usual theory, says: "The more correct and safe expression is, that *the value of the ton of iron is equal to the value of the ounce of gold*, or that their values are as one to one." Here we have two values with only two things and yet value, the writer claims, is only a ratio. Obviously value is a property of each of the goods, iron and gold, and a ratio comes in only when we try to express the relation of these two values. The mistake arises from supposing that to call anything a property of an object is to affirm it *inherent* in that object, inseparable from it, and so not relative to, or conditional on, anything else. Perhaps there are such properties. But many properties, certainly, are quite different. A soft iron bar has the property of magnetism *because, and while*, a current of electricity is passing through the wire coiled about it. So material objects possess the property of value *because, and while*, they are in certain relations, qualitative and quantitative, to human wants.

Now there is just a little doubt with respect to the propriety of setting up this measuring of value as an independent function of money. For in a sense acting as a common measure of values is merely a necessary incident to acting as a medium of exchange. Whenever, indeed, any object is exchanged for any other object, the exchange value of each is thereby measured. Thus if 1 pound of butter is exchanged for 3 pounds of sugar, then the value of 1 pound of butter is, for the exchanging parties, measured as 3 pounds of sugar, while the value of 1 pound of sugar is measured as $\frac{1}{3}$ of a pound of butter. So, when, instead of directly exchanging the butter for the sugar, we first sell the butter for 21 cents and then use the money to buy 3 pounds of sugar, although primarily using money as a medium of exchange, we have necessarily measured the value of 1 pound of butter as 21 cents, and the value of 1 pound of sugar as 7 cents.

But, while there is some doubt whether one ought to treat measuring values as anything more than a necessary incident to acting as a medium of exchange, yet it is probably best to resolve this doubt in the affirmative for the reason that in not a few cases money seems to be *used as a measure when it is not serving as a medium of exchange*. Particularly good, though not very common, illustrations of this sort are furnished by those direct barter transactions which still occur in rural districts. Suppose I am a farmer and winter is coming on when I shall have a little more leisure. I get it into my head that I will cut enough wood off a particular lot to buy me a cutter. How much will it take? Evidently I want to know the values of both wood and cutters as measured in a common unit, and then it will be easy to tell how many cords of wood will have the same value as a cutter. I therefore inquire how much the value of a cord of wood is when measured in money and find that it is five dollars. In the same way I learn that the value of the cutter as measured in money is thirty dollars.

Of course, then, it will take the quotient of five into thirty, or six, cords of wood to buy the cutter.

Cases just like this of the wood and the cutter are not very common; but substantially the same needs come to us all very frequently. We need to estimate the exchange value of our own goods, because it is their value which determines what we shall have to buy with. We need to estimate the value of other peoples' goods; because it is the value of those goods which determines how far our money will go. Further we need to estimate the values of things in order to judge their significance to us,—to answer the question whether or not they are really *worth* getting. Now this property—significance to us—is plainly something much deeper than exchange value and it is probable that we do not usually measure it directly by money. Our immediate measure of the significance of one thing is usually the significance of some other thing which we have formed a habit of setting up as our standard in the particular class of cases. Thus, to judge whether it will pay to go to the Thanksgiving football game, I may compare the satisfaction to be obtained from it with that to be obtained from two Haskell golf balls. If it is a new easy chair, which I am looking at, I may compare its significance with that of a writing desk for my study. And so in other cases. But plainly, as a prerequisite to making these comparisons and using them as a guide to economic conduct, I must know the relative exchange values of the two things compared. There is no advantage to be gained by settling whether the football game or the two golf balls are more significant to me, unless their exchange values are substantially equal. Thus, being able to measure exchange value makes us able to compare real, personal, values.

From what has been said it will be evident that the use of money to serve as a measure of value does not involve the withdrawal of any particular pieces of money from other uses to perform this function. If we are merely estimating

values in terms of money, we are using, not the actual money, but merely the idea of value associated in our minds with money. Even when actual measuring takes place, i. e. when an actual sale shows the actual value of a certain object, the money or its equivalent which does the measuring at the same time serves as the medium of exchange; and so no special portion of the stock is withdrawn from its regular function to perform this special duty of measuring. The use of money as a measure of value, therefore, interferes in no degree with its employment in its essential office as a medium of exchange.

IV. MONEY AS A STORER AND CARRIER OF VALUE.

In studying money as a medium of exchange and as a measure of value, we have probably covered all the services performed by it which can with strict propriety be called separate functions. But there are two other ways in which money frequently serves us, which it is sometimes convenient, though not scientifically accurate, to treat as independent functions, and which are often so treated. These must now claim our attention.

The first of these quasi-functions of money has its origin in two facts already touched upon; viz. (1) that a necessary stage in the effecting of exchanges through money is the interval of waiting between the sale of goods for money and the use of the money to buy other goods and (2) that this stage can usually be indefinitely prolonged at the will of the owner of the money. As a result of these facts our freedom of choice as to the time when we shall utilize our wealth is indefinitely increased. The products of today are sold today; but through the magic of money they satisfy the wants of next week or next month or next year. If the nature of a man's business causes his income to mass at one season, he does not, after all, have any trouble spreading its consumption over the whole year or even over many years.

The fruit grower does not live in plenty from June till October and then starve the rest of the year. Of course he would not, even under a barter régime; but he would have considerable difficulty avoiding that result. Under a system of money exchange the matter gives him no trouble. He sells his fruits at the time when they are ready for the market; while the buying of other goods with the proceeds he effects whenever he pleases.

Now, it is hardly necessary to say that, in a case like the above, money is performing its regular function of mediating exchanges; the only peculiarity being that the goods exchanged are goods belonging to different times. July goods are exchanged for February goods; goods of 1902 for goods of 1903; and so on. But, while it is easy to interpret a case of this sort as one wherein money acts as a medium of exchange, it is possible to look at it in another way. The fruit grower's raspberries in their most desirable form would not keep till he wanted to buy some clothes in the winter. He must dispose of them in July or not at all. He may, therefore, think of himself as selling them for money, *just because money being indefinitely durable and constant in value will store the value of his berries till he is ready to use it*. Of course, he is using money as a medium of exchange, but with an eye to this one special advantage among the many which the use of a medium of exchange gives.

Now this way of interpreting the matter, which perhaps seems rather forced as applied to the fruit raiser, has much more point in certain cases which can easily be imagined. Thus, it sometimes happens that people sell things which will keep indefinitely and which they really want and will later buy back with the very money received from their sale, simply because they consider the money a safer form in which to keep their wealth during the interval. This is especially likely to happen in badly governed countries where prop-

erty is insecure. But it also happens in well-governed countries, if for any special cause temporary insecurity prevails. On the eve of a great war, bonds and stocks are likely to be treated in this way. So in the midst of a disastrous war even a civilized nation may be in such desperate straits that people anticipate a confiscation of certain kinds of property and hasten to turn them into money as being more easily concealed. In such extreme cases as these, it certainly seems legitimate to say that money acts as a storer of value. But even in the more ordinary cases, so long as the special object in the mind of the seller of goods is to get his wealth into a form which will *keep*, we may without serious impropriety describe the operation as a storing of value. Only we must not forget that money's storing value is not a work independent of its serving as a medium of exchange, but is merely the artificial prolonging or emphasizing of one of the three necessary stages in its mediating of exchanges.

Quite similar to the service of storing value is that of *transporting or carrying value*. It is of the nature of money exchange to enable us to *separate* the selling of our goods and the buying of other people's goods *in time and place*. How the separation in time makes money suitable to serve us in storing value has just been explained. An analogous advantage can be derived from the separation in place. The farmer may sell all his wheat in Ann Arbor; but this does not hinder his spending the proceeds in Ypsilanti, or Saline, or Detroit, or any other place you please; since the money which he gets for his wheat will keep its value while he carries it from Ann Arbor to Ypsilanti, or Saline, or Detroit. It is thus a characteristic of money exchange that it enables us to effect with the least possible trouble exchanges between goods located in different places. Through the mediation of money Ann Arbor goods are traded for Detroit goods, or Saline goods, or Chicago goods, and so on.

And this element is in a measure present in every exchange. No two wares will be found in absolutely the same place. The man who buys the farmer's wood and the man who sells him shoes will be separated by a few feet anyhow, probably by many rods.

But, it must now be added, while this element is present in all money exchange, it is in some cases the *conspicuous* element. It is *that one* of the various advantages to be derived from money exchange which the seller of goods is *seeking* to realize. Thus he may want to sell his commodity, simply because it is in the wrong place. He is a farmer in Michigan, intends to remain a farmer and likes the particular farm he has now; but he is going to move to Oklahoma. If he could carry along the farm, he would not think of selling it. But farms can not be moved, and, therefore, he must sell this farm and buy another in Oklahoma. Of course this is at bottom merely a case of exchanging one farm for another through the assistance of money. But it is sometimes convenient to treat this use as an office of money different from its ordinary one as a second quasi-function, in which case we designate this quasi-function the *carrying* or *transporting of value*. Under modern conditions money is perhaps less often used for this purpose than its credit substitutes; that is, written rights to claim money.

V. SOME SPECIAL USES OR DISPOSITIONS OF MONEY.

We have now considered the primary function of money, to be a medium of exchange, its secondary function, to be measure of value, and two quasi-functions, which are incidental to its primary function. We must finally give a moment's attention to what I shall call certain special uses of money. These uses are not peculiar to money, but they acquire special significance in its case because of its unique characteristic as the universal form of wealth—the possessor of universal buying power.

In order to make clear the nature of these special uses, I will choose for illustration a use of money which *might* be treated as one of these special uses now under consideration, though it probably never is, I mean its use in *making presents*. We all have occasion to make gifts—to transfer to another person some object of value without exacting anything in return. Such a disposition we can make of all sorts of valued articles; and we do not, on that account, look on this use of such articles as a new or special function belonging to them. The fact that parents make presents to their children of sleds, skates, tennis rackets, etc. does not cause us to say that serving as instruments for making presents is a special function of sleds, skates, or rackets, in addition to their natural functions in coasting, skating, or playing tennis. Giving away sleds or skates or rackets is simply a particular method of disposing of our property,—causing it to satisfy somebody else's wants rather than our own.

The case of money, however, is somewhat different. Being the medium of exchange—the universal equivalent—it proves in many cases a very convenient means for making presents in general. The giver likes it; because it saves the time and trouble he would spend deciding on a suitable object. The recipient likes it; because it leaves him free to choose for himself what the present shall be. We can conceive, therefore, that a farmer might come to town and sell his wood, in order to get five dollars just on purpose to distribute that five dollars in presents. And, in such a case, we might say that money acts as a *gift medium*. Now, as a matter of fact, we do not do so; we do not call the making of gifts a special function of money; but we pursue such a policy in several analogous cases.

Of these special uses that one which seems to me most deserving of mention is the serving as *loan medium*, i. e. as the medium in which loans are made. It is doubtless well-known to the reader that under modern conditions a

very large part of the business of a country is carried on with borrowed capital. A business man worth not more than, say, twenty thousand dollars, will be controlling productive capital in the shape of engines, machines, raw material, and so on, worth thirty thousand or more. Now, this is no mere accident. Experience has shown conclusively that productive efficiency is increased through a separation of functions which leaves the *accumulating* of capital largely to one class of persons and puts the *employing* of it in the hands of another class. But this division of labor means that there must be a traffic in capital between the accumulators and the users of it. Such a traffic might take either one or two forms. The capitalist might get together a stock of engines, machines, etc., and hire these out to the *entrepreneur*, as the responsible producer is called. Or the capitalist might get together a stock of money or bank credit and hire *that* out to the entrepreneur, leaving him to buy capital goods as he needed. The student will readily believe that the latter is the better way. It is in fact the chief, though not the only method, which is employed to secure for one man the use of another man's capital. Now, when money or bank credit is used in this way, we say it is used as a *loan medium*; that is, money is, in such cases, the medium through which the borrowing and lending of capital is carried on. What the borrower really wants is, not money, but engines and machines. But *he* borrows money; because, in getting money, he gets the power to get engines and machines.

I have said that it is sometimes convenient to give this use of money or bank credit a special name—loan medium. I hardly need add that money is not performing here any really new function. Because the keeper of a skating rink hires out skates, we do not say that skates perform in addition to their function in skating, *the function of being hired out*. No more can we say that it is a function of money to be hired out. Further, it is quite possible to

interpret this use of money as really a case where it acts as a medium of exchange. Though the entrepreneur has no goods to sell for money with which to buy engines and machines, he has after all something which it is easy to sell for money; viz. credit, or claims on himself to receive money. Having made out his promise to pay five thousand dollars one year from date, he can take this with proper securities to the bank and sell it for money or bank credit; whereupon he can take the money or bank credit and buy therewith the engines and machines needed. Thus, when money is borrowed and lent it may be said to act as a medium of exchange between credit and goods. However, when it is convenient to speak of money as being used as a loan medium, we shall not hesitate to do so.

Another special use of money, one which has received more general recognition than that of loan medium, is serving as a *means of payment*, a means for making one-sided transfers of value. Thus the government demands from us certain contributions of wealth covered by the term taxes, or, in the case of wrong doing, exacts from us certain payments known as fines. Or we may have brought injury either accidentally or intentionally to our neighbors, and, therefore, are compelled to give compensation, to pay damages. Here we have several occasions for one-sided transfers of property. What more natural to choose for the purpose than money, the medium of exchange, the form of wealth which everybody is glad to get because it has power to buy every other form of wealth? Nothing, surely. It is, therefore, chosen; and thus comes to be called the *legal means of payment*.

It should be said, however, that in dignifying this use of money with a special name, we must be careful not to take our act too seriously. We must not suppose that this is a function of money in any such sense as is its acting as a medium of exchange or, indeed, that this is a use of money independent of, or inconsistent with, its being a

medium of exchange. The government takes from me a tax payment of \$35 in the medium of exchange, *just because it is the medium of exchange*, and so can be used to buy anything the government wants. If, instead of money, they had collected from me seven tons of soft coal to burn in the city furnaces, we should not have concluded that coal had given up its function of being fuel and taken on the new one of paying taxes.

Another case wherein money is usually said to serve as a means of payment is when it is employed to settle claims created by the borrowing of money, i. e. by its use as a loan medium. This borrowing may be direct, as when I receive \$100 from the bank in exchange for a promise to pay back \$100 three months later, or indirect, as when I receive a mowing machine in exchange for a similar promise. Having promised to pay money, I am of course bound to do so; but this does not give money a new function. If a farmer who was very busy with his fall plowing should borrow a cord of stove wood from his next neighbor, promising to pay it back in February, it would plainly be necessary to cut a cord for this purpose, and deliver it as promised. But no one would think of saying that, besides serving as fuel, stove wood has another function; viz. *paying back borrowed stove wood*.

Nevertheless, it is often convenient to treat this employment of money as a special use,—for the reason that much of the money of the country is being transferred from hand to hand to do this work of settling debts, and still more, perhaps, is kept waiting to be so transferred. We must, however, be careful not to let our words mean too much. When we say that a large part of the money stock is set aside in the bank reserves to be used as a means of payment, we do not mean that that money has given up its natural function of medium of exchange, and taken on a new one as a means of payment. We only mean that certain institutions which have borrowed from their neighbors

considerable quantities of the medium of exchange, which they have agreed to return when called for, are quite properly keeping on hand a large stock of the said medium of exchange, in order that they may be ready to meet their obligation to return said medium of exchange.

One particular case under the use of money as a means of payment is perhaps of sufficient importance to deserve separate treatment and a special name. It is where money serves as a *guarantee of solvency*. As we are doubtless all aware, it is a common practice in the most advanced commercial nations for business men generally to keep their stock of money, or most of it, with a common treasurer known as a banker, who makes and receives payment for them in money or credit, lends them money or credit, collects their claims on distant places, and so on. But of course the very existence of such a business depends on the strong and continued confidence of the public. Knowing that banks are at all times liable to be called on to pay on demand a very considerable portion of the great sums they owe, the depositors will have no confidence in them unless they can show large sums of actual money ready to be paid out at any moment. Accordingly the cash fund kept by banks and known as their reserve must be looked on as in large measure having its reason for existence in the need for such a fund to insure public confidence in the solvency of banks. Such money therefore plays the rôle of a *guarantee of solvency*; and the importance of this rôle justifies giving it special mention and a special name, though we have in this no new function different from that of being the recognized medium of exchange.

In the preceding account of the functions of money nothing has been said of an office which is commonly enumerated as one of the most important which money fills, i. e. serving as the standard of deferred payments or debts. This

omission is intentional. Money does not seem to me to play any such rôle. The reasons for this conclusion, however, will be better understood after we have learned about the monetary standard. Here we will merely outline the argument.

First, money surely can not be the standard of debts or contracts in general but only of money debts. That is, money obviously can not be the standard of a promise to deliver 10,000 bushels of wheat or 500 cords of wood or 1,500 barrels of apples. The standard for the wheat contract must be some sort of wheat, for the wood contract some sort of wood, for the apple contract some sort of apples. The statement, then, can have no other meaning than that money forms the standard of *money contracts*. But, secondly, to say that money constitutes the standard of *money contracts* is little short of absurd. If it means anything, it is a mere identical expression. To say that a contract is a money contract is to say that money determines the thing which must be delivered, and so is to say that money is the standard of this particular contract.

The facts which probably explain the putting forward of *debt standard* as one of the functions of money are these. (1) There must be some particular money out of several existing sorts which is valid money, good money, *standard money*, for money contracts; just as there must be some particular grade of wheat which is *standard wheat* for wheat contracts on a particular exchange. (2) In a typical modern monetary system there is something behind money which *determines the value of the unit*, fixes the significance of one dollar, or one franc, or one pound, in ordinary *money contracts*. That something is the ultimate *monetary standard for money contracts*. But both these concepts will be more fully explained in the next chapter.

PROBLEMS.

1. How does Jevons illustrate the inconveniences of barter? See Money and the Mechanism of Exchange, chapter I.

2. It is commonly said that barter necessitates a double coincidence between the exchanging parties. What are the *two* coincidences meant?

3. I often say that to make barter possible there must be a double coincidence in the *amount* as well as the kind of goods. What is meant?

4. Using money seems to lengthen the process of exchange by making *two* operations necessary where before *one* sufficed. How can such a procedure be described as facilitating exchange?

5. "A guinea may be considered as a bill for a certain quantity of necessities or conveniences upon all the tradesmen of the neighborhood." From Smith's Wealth of Nations. Supposing the writer to mean by "bill" what business men call a sight draft, explain and justify the comparison.

6. In the above quotation substitute for "bill" the word "due-bill," then explain and justify the statement.

7. Money is sometimes spoken of as "the universal commodity." Explain meaning.

8. Money is sometimes compared to the *shuttle* of a loom. Why?

9. It is sometimes said that money enables us to *mobilize* our property. What is meant?

10. Many people are greatly distressed to have a single dollar of money go out of their community for fear their stock will be permanently diminished by just that amount. Show that this fear seems inconsistent with the very nature of money.

11. In the buying and selling of wheat on a wheat exchange, the thing actually transferred in delivery is not wheat but

the *right* to wheat in the form of *elevator receipts*. These receipts might be called *representatives of wheat*; but no one would think of calling them *representative wheat*. So a railway trunk check might be called the representative of a trunk but would not be called a *representative trunk*. In the case of money, however, no one hesitates to call bank notes which promise to pay money *representative money*, rather than representatives of money. Explain the difference.

12. Between 1862 and 1879 there was no standard coin in circulation in the United States. Should we say that the United States had no money during that time?

13. Why should bank notes be classed as money while bank checks are not?

14. Read the faces of a bank note, a silver certificate, and a treasury note (greenback), and point out the differences.

15. Horace White in his *Money and Banking* represents the use of money as after all a case of *barter*, two barter transactions being substituted for one. The farmer barter his wood for money, then barter the money for groceries, dry goods, etc. Show that the point which he probably intended to make is not sound.

16. It seems probable that in the beginnings of the use of money, only things having a use-value as great as their exchange value could serve the purpose. Why?

17. In bringing out the requisites of money as a medium of exchange it is common to emphasize *acceptability*,—money must be something which people generally are willing to accept in exchange for their goods. Show that *relinquishability* is equally necessary,—that money must be something which buyers are able to *let go*. Would dining-room chairs make good money? tea? salt? candy?

18. Why would iron not make a good standard or basal money?

19. Farmer A arranges with neighbor B to get from

the latter a load of hay in March and pay for it by work in the harvest field the next summer. What use of money could he advantageously make in connection with the transaction described?

20. Money is occasionally defined something like this: "Money is anything which passes freely from hand to hand in exchange for goods *and in discharge of obligations, etc.*" Show that it is not necessary to include the words in italics.

21. General Walker's theoretic reason for holding that the phrase "Common measure of values" is wrong (see page ...) was that values are mere *ratios* and can not be measured.

(a) Is it proper to say that ratios can not be measured?

(b) If values can not be measured can they have a common denominator? (What is it to be a common denominator of one-third and one-half?)

22. Walker's *practical* reason for discarding the phrase "common measure of values" seems to have been his unwillingness to admit what he thought implied by the word "measure" that only full-weight metallic money, money having just as much *use* value as *exchange* value, could perform this particular office of money; whereas he contended that a paper money like our greenbacks could do every sort of money work.

Show that he was wrong in supposing that use-value,—bullion value,—is necessary to the instrument which measures values. Is any kind of value necessary?

23. If we wish to measure the width of a table, we begin by laying a rule along the edge. Does all measuring involve such *direct physical* comparison? Give three or four illustrations.

24. In 1893 the Indian government stopped the coinage of silver. In consequence India's standard money, silver rupees, advanced in value to a point varying from five to ten cents in excess of their bullion value. Were they as

good a money for storing value as before the change? Would the common people be likely to continue to use these rupees to make jewelry?

25. Under conditions easily conceivable bank notes or government notes would be a very poor kind of money in which to store value. Explain and illustrate.

26. Bank credit is a still better means for transporting value than money. Explain.

27. Suppose that a rich Armenian merchant of some town in the Caucasus, fearing an attack by Mohammedans on all persons of his race, turns most of his wealth into the form of diamonds, pearls, gold trinkets and gold coin, and buries these in some safe place. Can you think of any way to justify the statement that in so far as he takes gold coin he is *not* really using *money* to store his wealth but rather the *metal gold*.

28. As the family have five or six bicycles to be taken care of, I propose putting up a little shed to hold them, if it does not prove too costly. On inquiry I learn that the house planned will take 500 feet of lumber and two days' labor. Show that I now have occasion to *measure* value.

29. Running out of coal in May and needing a little for a specially cold day I borrow three scuttlefuls from a neighbor, promising to return an equal amount in the fall. Later I decide to use coke rather than coal but order the dealer to bring along three scuttlefuls of coal to be used in paying back the loan. Does this prove that one of the functions of coal is to be a means of payment?

CHAPTER II.

THE TYPICAL MONETARY SYSTEM.

In the preceding chapter it was our object to get some notion of the nature and functions of *money in general*. We must next undertake the study of *a typical monetary system*. Such a system contains several different kinds of money, each performing a different office in the system, and all organized into a more or less coherent whole, with its scale of denominations, its standard, its various funds, and so on. Actual systems are often rather discordant, being too much the products of accident; still they are commonly more harmonious than seems at first sight to be the case. Anyhow they must be studied as systems in spite of their imperfections.

I. THE DENOMINATION SYSTEM.

The first element to be remarked in any monetary system is *the system of denominations*, that is, the *names with which quantities of money are expressed*, e. g. dollar, dime, eagle. The necessity for some means of expressing quantities of money is easily seen. Since money is the common thing which exchanges against all other goods and since these goods range in value from almost nothing to millions of dollars, it is necessary that we should be able to make up sums of money from the highest to the lowest, and in some way to describe or express these sums. Conceivably this could be done by the use of the ordinary denominations by which weight or bulk is expressed. As a matter of fact this seems to have been the practice in all early systems. The monetary denominations were originally nothing but

weight denominations, e. g. the Hebrew shekel, the Roman as, the English pound.

But, while a procedure like that described is possible, it is natural and inevitable that we should come to have denominations which express quantities of *money* rather than quantities of *metal*. First, just as soon as money became fully differentiated from the mere stuff of which it was made, men would tend to dissociate a given denomination when applied to money from the same denomination when applied to metal. Secondly, this dissociation would become necessary as soon as governments introduced the practice of debasing coin, reducing its weight or fineness, so that a shekel or pound of gold coin meant much less than a shekel or pound of gold bullion. Accordingly, every well-developed monetary system has a full set of denominations of its own, the connection of which with weight denominations, if there is any, no one thinks of in the ordinary course of business.

Monetary denominations may be divided into Primary and Secondary. The Primary denomination is what we more often call the *Monetary Unit*—that denomination which is thought of as *fundamental* in the system, the other denominations being referred to it in defining their value. The primary denomination or monetary unit in the United States is a dollar; in England, a pound; in France, a franc; in Germany, a mark; and so on. The Secondary denominations are those which are looked on as derived from the monetary unit—being multiples or fractional parts of that unit. Thus in the United States, the law provides for the mill or thousandth of the dollar, the cent or hundredth of a dollar, the dime or tenth of a dollar, and so on. Frequently a system will contain secondary denominations outside those regularly authorized which survive from some older order. In our case the survival is illustrated by the shilling, still used, though much less often than fifty years ago.

II. THE MONETARY STANDARD.

A. General Account.

The second essential element in a monetary system is *the monetary standard*. The special office of the standard is to *fix the meaning or value of the primary denomination or monetary unit*. The precise significance of this statement is most easily explained by comparison with an analogous case, the standard of liquid measure. As we all know, there are in the United States at the present time thousands upon thousands of vessels for measuring liquids which contain a gallon or some multiple or fraction of a gallon. Some of these measures are made of wood, some of tin, some of stoneware, and so on. Some are cylindrical in shape, some like the frustrum of a cone, and so on. But nevertheless, in one particular, they are all alike or at least intended to be alike. As respects their capacity to hold liquids each is supposed to be equal to every other. And this equality is of prime importance. For, if gallon measures were not substantially equal in this particular, the significance of the gallon would be constantly changing, and so the way would be opened for an infinite amount of trouble, error, or cheating. Now how is this equality among gallon measures attained? How is it brought about that the gallon shall always signify just one thing? Simply by requiring that a gallon measure shall be able to hold a certain fixed amount by weight of some one substance, no more and no less. The substance chosen is pure water under certain conditions of temperature and air pressure. The amount is 8.33 pounds. This fact we express by saying that 8.33 pounds of pure water is the standard of liquid measure in the United States.

Now the case of money is in this respect substantially the same as that of liquid measure. As we are all aware, the money unit—one dollar—has very many different forms. It shows itself now in the guise of a gold dollar, now as a

silver dollar, now as a greenback dollar, now as a bank note dollar, now as two fifty cent pieces, and so on. In like manner it takes the form of private checks, John Smith's checks, or H. Jones' check, thus making possible millions of various manifestations of the dollar. Now all of these are different and in themselves have very different degrees of value. The gold dollar, for example, is worth just as much whether it is coined or melted into a shapeless lump. The silver dollar, on the other hand, is worth as much as the gold when it is coined, but less than half as much when it is melted up. The paper is practically worth nothing in itself. Nevertheless, in spite of the differences in intrinsic* value, all these different dollars are equal in exchange value. What is that one thing to which they each are equal, which *determines conclusively what one dollar shall mean* in all these various manifestations? That one thing is a piece of gold, nine-tenths fine, weighing 25.8 grains. Within the boundaries of the United States, in every conceivable connection, unless otherwise specified, one dollar means the amount of value which attaches to 25.8 grains of gold, no more, no less. If 25.8 grains of gold increase in value 10 per cent, so does the dollar. Hence we say that gold is the standard of value or the monetary standard of the United States. To summarize this explanation in the form of a definition,—the monetary standard in any system, is *that thing the value of which fixes the value of the monetary unit*.

From the above discussion it appears that our monetary standard is not one of the moneys used in the system, but rather a certain *definite quantity of a particular metal*, gold. That is, the value of one dollar in the various relations of business is in the last issue determined, not by the value of a gold coin, but by the value of the quantity of gold put

* That is, value belonging to it *as a substance*. The writer does not sympathize with the current denunciation of the word "intrinsic."

into a gold coin. It should, however, be noted that the gold coin itself is the immediate standard; since it is the value of that coin which in the first instance fixes the value of every other form of money. By this I mean that a dollar in these other kinds of money, instead of being directly kept equal to 25.8 grains of gold bullion, is really kept equal to gold coin only; and that consequently its being kept equal to the bullion also depends on whether gold coin is kept there. That is, if gold coin and bullion separate, the coin becoming more valuable than the bullion, the dollar follows gold coin rather than gold bullion.

As a result of this explanation, it seems to be necessary to distinguish for the typical monetary system an *immediate* or *proximate* standard and an *ultimate* standard. The immediate standard is the principal money, standard money, the actual coin, to which all other moneys are rated; the ultimate standard is that thing which determines the value of standard money, and so *ultimately* determines the value of the unit. In case there is nothing behind the standard money determining its value, then it is at once the immediate and the ultimate standard of the system. However, the typical system is one wherein the value of the immediate standard, i. e. standard money, is kept constantly equal to that of the gold bullion in it, which bullion, therefore, ultimately fixes the value of the dollar and so is the ultimate standard. To secure this equality in value of the gold dollar and the bullion in it two conditions are provided or permitted. First, the government coins gratuitously (or substantially so) all the gold people offer for this purpose. Secondly, people are allowed to melt the coins into bullion, if they wish to do so. Under these conditions there can be no material difference in value between gold coins and the bullion in them.

The using of a certain quantity of some metal as the ultimate monetary standard gives rise to some rather curious

problems as well as to some popular errors which to the student seem very foolish. If the United States makes 25.8 grains of gold its monetary standard, i. e. makes it the thing which fixes the value of one dollar, then of course the price of 25.8 grains of standard gold must be just one dollar,—nothing can change it but a change in the law. Further, since an ounce of gold contains 25.8 grains just 18.60+ times, the price of an ounce of gold must be just \$18.60+, so long as the law is unchanged. But of course we must not understand from this, as people sometimes do, that the value of gold—its *power* to buy goods in general—can not change. Its *price* can not change, because it is itself the thing which determines the value of the unit in which prices are estimated. In other words, the price of gold is the value of gold measured in a certain fixed quantity of gold, which of course can not change. An ounce of gold when measured in 25.8 grains of gold will always give the same answer, 18.60+; or expressed in money, it will be \$18.60+. But the value of gold as measured in all other goods ten years from now may be greater or less than it is today. But in that case the value of the *dollar* will have changed to just exactly the same extent and so the *price* of gold will be exactly the same as now.

Another point with respect to the standard which we shall need to have in mind for a later discussion is the distinction of the monetary *standard of prices* and the monetary *standard of debts*, or that which determines the value of the dollar in prices and that which determines its value in debts. At first this putting of the matter seems absurd, since the very idea of a standard implies that there can be but *one*. Fixing the meaning of a unit, such as the gallon or the pound or the dollar, can not be done by each of two or more things. For each of the two or more things might be different from every other, in which case we should have the unit fixed at two or more places at the same time, which

is of course a contradiction in terms, really meaning that the unit is not fixed at all. Thus we could not have two standards for liquid measure, 8.33 pounds of water and 8.33 pounds of sulphuric acid; for, since the latter fills about half the space of the former, fixing the gallon by each of them would mean making it at the same time *as big*, and *half as big*, as 8.33 pounds of water.

Now it must be admitted, that rightly understood the statement just made is surely true. But, then, it merely means that *within any one field*, a particular unit can have but one standard. *If different fields can be distinguished*, we can have as many different standards as the number of such different fields. Thus it is perfectly possible, though quite undesirable, that the gallon should have one standard in domestic trade and another standard in foreign trade, or one standard for oils and another for syrups, and so on. So in the case of money it is possible to choose one thing to fix the meaning of the dollar in prices, another to fix its meaning in debts, still another to fix its meaning in payments to government and so on.

We might go further and say that under each of these cases there might be several sub-cases. We could have one price standard for foreign trade, another for domestic trade. We could have one debt standard for government debts, another for railroad debts, another for mortgage debts, another for commercial debts, and so on. During the greenback period we had one standard, gold, for interest on United States bonds and duties on imports, and another standard, the greenback, for most other purposes. In general, when the monetary standard is subject to rapid fluctuations or its maintenance is doubtful, men are likely to determine the debt standard by specific contract in each case. Thus, during the agitation against the gold standard a few years ago, promissory notes and bonds were generally drawn with a clause providing for payments in gold or *its* equivalent.

But, while it is possible that a monetary system should have many standards, I hardly need say that such an order of things is not at all desirable. It is best to have just one meaning or value for the dollar in all connections; and this is in normal times the case. At least the dollar has but one meaning for the great mass of business transactions,—for prices in ordinary sales and for ordinary debts. If there are at the same time other standards, they are limited to exceptional cases. Few people even know that they exist. But, while there is usually but *one* monetary standard in all important connections, it is desirable for certain reasons which will appear later* to make the theoretical distinction of a *standard for prices* and a *standard for commercial debts*, meaning by the former that which fixes the value of the money unit in price quotations and by the latter that which fixes the value of the money unit in the debts of business men, particularly merchants and manufacturers.

B. *Different Systems.*

In the above account of the monetary standard we have had in mind the typical system of our own time. Its characteristic feature is that the ultimate standard, the thing which finally fixes the value of the unit is always *a definite quantity of a definite quality of some one metal*. Such a standard is known as a single metallic, or *monometallic*, standard. But it is possible to have other kinds of standards. Such have existed in the past, and some have warm advocates in our own day. We must now give a brief account of these other systems, though the discussion of their comparative merits will be reserved for a later connection.

Let us take first *bimetallism*. This is a scheme to give to either or both of two metals the place which in our system is given to gold. That is, the laws provide that both

* Chapter V.

gold and silver coins shall be full legal tender, and that both shall be freely and gratuitously coined, while no restriction is put on the melting of either. In the opinion of most writers, this procedure always results in a system best described as an *alternating* standard—the metal which in the legal ratio is overrated always being the standard. In the opinion of others, the result is, at times anyhow, a standard *compounded of the two metals*. In either case the system would be called legal bimetallism; though, when it worked so as to make an alternating standard, it would be practical monometallism. Most of the nations which formerly maintained bimetallism have really given it up and gone over to gold monometallism by stopping the free coinage of silver. But, as they still make certain silver coins full legal tender, their position is more or less anomalous. They have the gold standard, but have not made every part of the system to fit. This is the case with the United States, France, Germany, Belgium, and several other nations.

A third sort of standard which is sometimes advocated, though I believe it has never been tried, is called *symmetallism* or joint metallism. In this scheme, it is not either silver or gold that is to be the standard, but a compound of both gold and silver. If the standard metal were to be coined at all, it would appear as a coin consisting of so many grains of gold *plus* so many grains of silver melted together. Anyhow the money would be so managed as to keep the value of the dollar constantly equal to the value of such a compound of the two metals. This plan seems to have some merits but probably will never be tried.

In all the above cases, there would be, or at least could be, coins made from the standard metal. But this is not necessary. It is theoretically possible to have as our standard *some commodity* not fit to be used as money at all. Thus we might make our standard a bushel of wheat; that is, we might regulate all our money so that one dollar should

always have the same value as a bushel of wheat. All agree that this would be a very foolish thing to do. But some able writers strongly favor a system in which a *number of commodities*, say forty or fifty, constitute a *composite or multiple standard*. On their plan, the dollar would always be kept just equal in value to some fractional part of a certain list of goods,—thus making this list of goods the standard. Whether such a system could be made to work, and, if so, whether on the whole it would be better than the present, we can not now discuss. Certainly no nation has yet adopted it, or seems likely to do so in the near future.

It perhaps ought to be added to this account of the multiple standard that such a standard might be made the *debt standard* for long-time debts, without being the standard of short time debts or prices. Such a scheme has been favored by a number of authorities. In that case, the loan would be made *in money* and *paid in money*, but would be *reckoned* in multiple units; so that the amount of money paid back would not necessarily equal the amount received by the borrower but would change as the money value of the multiple unit changed. Thus, suppose I were to borrow \$500 on this plan, when the multiple unit was worth \$100. Receiving the money, \$500, I would give the lender a note for 5 multiple units. If, when my note became due the value of the multiple unit were \$95, I would pay back 5 times \$95, or \$475. If the multiple unit were worth \$105, I would pay back 5 times \$105, or \$525.

In the four cases which we have studied, the monetary standard has always been a *definite quantity of some material substance* or substances. We must now explain a fifth case, which is historically of great importance, wherein the standard is merely *one of the moneys* of a country,—there being nothing outside that money as money which fixes its value, neither its own substance nor any other. The best

illustration of this case is furnished by *fiat money or irredeemable legal tender paper*. Take our own monetary system between 1862 and 1879. During that period our money consisted largely of United States notes which were legal tender for most purposes, but were not at the time redeemable; that is, though there was printed on them a promise of the United States to pay money (specie) the promise was not being kept. Now, for a variety of reasons, these notes circulated as money; but their value, as measured in goods or gold, moved up and down very irregularly, especially during the earlier part of the period, according as the confidence of people in their ultimate redemption varied, or as their amount was changed, or as the needs of business for a medium of exchange rose or fell, and so on. But, in spite of these constant changes in the value of greenbacks, they were after all the standard of value. For during the whole period the value of the dollar in prices, in debts, in taxes, and so on, kept right along with the value of the greenbacks. All rating of the values of things was in the greenback dollar. This was true even of any kind of money which differed in value from the greenbacks. Thus, when in 1865 a gold dollar was worth about twenty-three cents more than a greenback dollar, this fact was expressed, not by calling the greenback worth seventy-seven cents, but by quoting the gold dollar at one dollar and thirty cents.

Some writers in their extreme hostility to fiat money have denied that it can ever be a standard. I sympathize with their hostility to fiat money; but the position it leads them to take is quite untenable. That fiat money can be a standard is conclusively established by an appeal to history. *It has been a standard*—it has been the thing which fixed the meaning and value of the monetary unit. It was a very poor monetary standard; but the monetary standard it certainly was.

But the *fiat* money standard is not the only case of a

money standard of value. We can also have a *coin* standard. Such a standard exists, when the value of the monetary unit is fixed by some coined money which itself varies in value independently of the bullion in it, as also of any other object. If a government does away with the free coinage of its only legal tender money, the value of such money nearly always rises above that of the metal in it. Having done so, it does not stay at any fixed point, say twenty per cent, above the bullion; but constantly fluctuates up and down. Its value is, therefore, not determined by the bullion in it or by any other substance, but is *self-determined*. But, since the value of all other moneys is determined by this overvalued money, while its own value is not determined by anything outside itself, *it* is the monetary standard. In earlier times coin standards were almost universal. This resulted from the fact that nations seldom had free and gratuitous coinage, and seldom permitted the free melting of coins. As a consequence the value of the standard coin which fixed the value of money in general was to a considerable measure independent of the value of the bullion in it, being sometimes above, sometimes below the latter.

III. THE DIFFERENT KINDS OF MONEY.

In the two sections preceding, we have studied the first two factors or elements in a monetary system; viz., the denomination system, and the standard. We must now take up the money itself, the stock of coins and bills in actual use.

A. The Surface Distinctions among Moneys.

Almost any group of objects can be classified in a variety of ways. To this rule moneys are no exception. How many and what kinds there are depends on the point from which we view them. Some classifications are on the basis

of composition, some on that of legal standing, some on that of function, and so on. We shall find it convenient to be familiar with most of these. In presenting them I shall begin with the more superficial distinctions among moneys, reserving their classification *on the basis of function* for the last.

In the United States at the present time, there are eight authorized kinds of money. In addition to these, there are two, viz. treasury notes of 1890 and legal tender certificates, the issue of which has recently been discontinued and their retirement provided for. There are, finally, a few thousand dollars in various obsolete treasury notes and bank notes, the issue of which ceased long ago, but which have never been presented for redemption, and which are probably, to a small extent, used as money still. The eight authorized moneys are

1. Gold money (coin or bullion),
2. Silver dollars,
3. Silver fractional coins,
4. Minor coins, nickel and bronze,
5. United States treasury notes (legal tenders) (green-backs),
6. National Bank notes,
7. Certificates for gold coin or bullion,
8. Certificates for silver dollars.

Of these eight moneys, two; viz., gold certificates and silver certificates, can be at least temporarily disposed of by counting them under the corresponding metallic moneys; for these certificates are in the strictest sense representative money and, hence, for most purposes should not be recognized as having any separate existence. Corresponding to every dollar in circulation in the certificate form, there is locked up in the vaults of the United States treasury an equivalent amount of metal in coin or bullion, waiting to be delivered to the man who presents the certificate. That

is, the certificates are warehouse receipts, such as the manager of a wheat elevator gives to the owners of the wheat which is stored in the elevator. These certificates, therefore, do not constitute another kind of money in addition to the corresponding coin. They are rather documents which indicate the ownership of the coin. Consistently with this way of looking at the matter, we shall usually say, not that there are in circulation, let us say, 60 millions of silver dollars and, let us say, 400 millions of silver certificates, but rather that there are in circulation 460 millions of silver dollars, 60 in the form of coin, 400 in the form of certificates.

The number of moneys which we have to consider in studying the system of the United States is thus reduced from eight to six. Classifying these on the basis of composition, the first four go together as metallic money, the fifth and sixth as paper money. Again, the four kinds of metallic money naturally break into two groups, full weight coin and base or overrated coin. The former means coin which has substantially the full amount of metal necessary to make its bullion value the same as its money value. It includes only gold money, though, as already indicated, this must be understood to mean some gold in bar form as well as coin. Overrated coin is that which has an exchange value greater than its bullion value. It includes with us silver dollars, silver fractional coin, nickels, and bronze coin.

The coins made of nickel and bronze commonly go together as minor or token coins. As the designation token coin implies, this money is frankly a mere substitute. It never pretended to be real money. It was always a sort of metallic due bill or note which was used as a convenient substitute for the real thing. Fractional silver commonly goes by the name of subsidiary coin; and silver dollars are often classed with them. There are no longer any good reasons for distinguishing minor and subsidiary coins. In-

deed, speaking broadly, it is quite proper to put together token coin, subsidiary silver, and silver dollars as subsidiary or token money; though there are some peculiarities of the silver dollar which must be brought out before we get through.

Metallic money should be distinguished again with respect to *the conditions of issue*. In the United States gold is freely and gratuitously coined, or gratuitously coined on private account; that is, any one can take gold bullion to the mint and get coin in exchange without charge for coinage or for anything save parting, assaying, and the alloy. The other metallic moneys are coined only on government account. By this we mean that the government buys the metal, has it made into coin, and pays out this coin as occasion requires, or sells it to individuals in exchange for other money. The difference in value between the bullion which goes into the fractional coins and the coins themselves goes to the government as a profit, and is commonly called *seigniorage*. Some governments, in minting freely coined or standard money, make a charge for the work more or less in excess of cost, thus making a profit on this kind of money as well as on subsidiary coin. Such a charge is also known as *seigniorage*. A charge which merely covers cost or less is known as *brassage*.

Turning, now, to *paper money*, and omitting certificates as not properly to be distinguished from the money they represent, we have two sorts; viz., treasury notes and bank notes. As the name note implies, both of these are promises to pay money, and are issued, the one by the United States treasury, the other by some national bank. The treasury notes are payable only in gold, the bank notes in any legal tender money. Of these forms of paper, the bank note is most typical, having a counterpart in almost every monetary system. The treasury note is less universal, but is found in several countries. Some nations, however, which do not circulate treasury notes have a special bank

note almost as different from the ordinary one as is the treasury note. That is, they have a note issued by a great central bank having special rights, which note also has special prerogatives, often, for example, being legal tender.

As to their essential nature, notes should be sharply *distinguished from certificates*. The latter, as was explained above, are mere warehouse receipts. They go out only as the gold or silver comes in. They, consequently, add nothing to the circulating medium, save in the sense that they will sometimes stay in circulation when the metal they represent would not. Circulating notes on the other hand, are promises to pay. They go out, not because coin has been brought in, but because the receiver is willing to be a creditor of the institution which issues them. They, therefore, increase the currency to the full amount issued, less only the amount of money necessary to meet occasional calls for redemption. Thus the issue by the national banks of about \$500,000,000 in notes effects a net gain in credit money, after deducting five per cent for the reserve, of \$475,000,000.

Circulating notes give rise to some other distinctions which should be noted. Ordinarily they are promises to pay on demand and ordinarily the promise is kept. In that case they are said to be *redeemable* or *convertible*. At times, however, the issuer stops paying them on demand; in which case he is said to have suspended specie or legal money payments, and the notes are called *irredeemable* or *inconvertible*. Sometimes the issuer omits the words "on demand," simply saying that he will pay the bearer so much. In some cases notes are made payable after some contingent event, like the success of the revolutionary government which issues them.

In the United States, if notes issued by the Treasury are irredeemable and at the same time legal tender, they are often called *fiat* money. Throughout this book, however, the phrase fiat money is applied to any money whether paper or coin, which is overrated, that is, has a higher

exchange than substance value, which is at the same time legal tender, and which is not redeemable in any other money. At present silver dollars are fiat money. For they are as metal worth less than forty cents, but they pass for a dollar, and are legally entitled to do so, and they are not redeemable. Treasury notes are not at the present time fiat money in this sense, because they are redeemable. In the United States the authorized treasury notes are often called greenbacks or legal tenders. Bankers, for a number of years, reserved the expression treasury notes for a particular class of such notes; viz. those issued in purchase of silver under the act of 1890; but these are now no longer authorized, and are rapidly disappearing. By bankers the word currency is some times employed to include paper money in general, sometimes all the paper except bank notes.

Another way of looking at our different moneys is from the standpoint of their legal tender status. How far does the law authorize a debtor to force them on an unwilling creditor? This really gives two questions, (1) is a money legal tender in all relations? (2) is it legal tender to any amount? If we answer yes, to both of these questions in the case of any particular money, it is to be characterized as a *universal and unlimited* legal tender. If it can be paid only in special cases, but then to an unlimited amount, it is a *partial unlimited* legal tender. And so on. From this standpoint our moneys including certificates fall into four classes. (1) Gold coin and silver dollars (also treasury notes of 1890) are a universal and unlimited legal tender. (2) Subsidiary and minor coins are a universal but limited legal tender, the former to the amount of ten dollars, the latter to the amount of twenty-five cents. (3) Treasury notes (including those of 1890) are a universal commercial or private tender, but a partial tender in the relations of the Federal government and outside parties. They are not legal tender in payment of interest on the

public debt nor of duties on imports,* nor in redeeming other treasury notes. (4) Bank notes and certificates are commercially, or in private relations, non-legal tender, but are legal tender to national banks, and a partial tender in payments between the Federal government and the public.

B. The Distinction of Principal and Subordinate Moneys.

So much for the more superficial classification of moneys. We must now go into the deeper phases of this matter. One of the most fundamental distinctions among moneys is that of (1) *Principal* or *Standard*, and (2) *Subordinate* moneys. It is scarcely necessary to say that if we are going to have different kinds of money at all, and this was certainly inevitable, this fact would necessarily give rise to the question *how shall these various moneys be related to one another*. Several plans are thinkable, and indeed have been one time or another realized. The different moneys might be quite independent of one another, no effort being made to maintain any community among them even in respect to denomination. In the same time and place silver coin might be used for some money purposes, gold bullion for others, and every day products for others. But manifestly it would be quite inconvenient to carry on such a system or lack of system, and a highly advanced society would certainly replace it with a better order,—would in some way co-ordinate the moneys into one system, with a common set of denominations and with moneys of the same denomination equal in value.

This result, again, we might attain in any one of several ways. The different moneys might be co-ordinate in rank and mutually independent, but managed in such a way as to keep them equal in value. Thus for several centuries in most European countries, both silver and gold were full money and co-ordinate in rank; but an attempt was made to keep them together by recoinage one or the other from

* This limitation has not been enforced since 1879.

time to time and putting in more or less metal as might be necessary to make the two kinds just equal in value. A similar result might perhaps be reached by keeping each of the moneys, while still independent of every other, equal in value to some outside thing, though I do not know of any historic case illustrating this plan.

But, while it is theoretically possible to have a system wherein the different moneys are co-ordinate in rank though kept equal in value by wise management, the practice of our own day is to *treat one of the moneys as principal and all the others as subordinate*. The principal money, which we shall usually designate as standard money, is made to set the pace, to fix proximately the meaning of the money unit; while the subordinate moneys are kept equal to it, either by providing for their convertibility into it, or by so managing them that convertibility will be unnecessary or will be effected indirectly. The relation between the two classes of money is often brought out by designating them respectively as Real money and Representative or Credit money. Even where the subordinate moneys are not redeemable in real money, they are convertible into that money by various roundabout processes and hence in a sense are credit moneys—promises to pay real money.

In a typical system of the sort described, if the subordinate moneys were brought into existence to meet a felt want, they are given the characteristics which fit them to satisfy that want and at the same time insure that these moneys shall not encroach on any function not their own and therefore shall not endanger the system as a whole. If any particular one of the subordinate moneys is the product of accident rather than of an effort to satisfy some special need, we still try to find a function for it and to fit it for that function in order to insure the harmonious working of the whole. And I think I may truly say that greater success is attained in this particular than is commonly supposed. Even the system of the United States,

which is often spoken of as a mere aggregate of unrelated moneys having their origin in the accidents of practical politics, has a high degree of unity and coherency, the result partly of unconscious evolution and partly of wise legislation.

C. *Standard Money.*

We will now proceed to set forth more fully the *real nature and functions of these different moneys*. The essential nature of standard money has already been suggested in calling it the *principal* money. It is the money which sets the pace for moneys in general, the only one which is self-dependent, or at least dependent, not on some other money, but on something quite outside all the moneys. It is the money to which all other moneys are subordinate, the one on which all other moneys are more or less dependent. Standard money is often said to be the only real money, all others being merely representatives of it.

Another characteristic of standard money, which seems distinguishable from that already brought out, is this, that it is the only money which *embodies* the ultimate standard, if any one does this, or it is the only money which is kept *in immediate connection* with the ultimate standard, if that standard is quite outside the moneys themselves, not being embodied in any of them. Standard money *embodies* the ultimate standard in a system such as ours wherein it is a full-weight metallic money, having not only the same *money* value as the standard but also the same *bullion* value. Standard money also embodies the ultimate standard when it is itself the ultimate standard, as was the case with our treasury notes between 1862 and 1879. Standard money is merely kept *in immediate connection* with the ultimate standard when it is a paper money or an overrated coin which by skillful management is kept equal to a certain quantity of gold or silver. In such case standard money may be said to *represent* the ultimate standard rather than

to embody it. But it is the only money which does so. All other moneys merely represent *it*. Thus in the Philippines at the present time there is no money that embodies the ultimate standard which is 12.9 grains of gold. But there are overrated silver pesos which by skilful management are kept equal in value to 12.9 grains of gold and to which other forms of currency are kept equal. These pesos, therefore, seem to constitute the standard money of the Philippines, the money which represents the ultimate standard, which forms the channel of communication between it and other moneys.

Looking at the characteristic of standard money just brought out from a slightly different standpoint, we may set forth, as one of the marks of standard money, the fact noted on page 38 that *it constitutes the proximate or immediate standard* of the system,—the thing which most immediately fixes the value of the money unit. Thus, while a lump of gold weighing 25.8 grains is the ultimate standard of our monetary system, gold *coin* is the proximate standard. The dollar in treasury notes, bank notes, silver, checks, and so on, keeps with the gold bullion, only because the gold coin to which they are kept equal itself keeps with gold bullion. If gold coin and gold bullion should get separated, the dollar in notes, silver, and so on, would follow, not gold bullion, but gold coin.

Finally, it should be added that in almost all modern money systems the most characteristic and decisive marks of standard money are two legal prerogatives, (1) *full legal tender* and (2) *free coinage*. In giving any money these two prerogatives, the purpose of the legislature is to make such money the standard money and to make the metal from which it is coined the ultimate standard. If these ends are not accomplished, it is because of some inconsistent provisions or because of errors in administration.

When discussing the monetary standard in the early

part of this chapter we brought out the point that a system could have different standards for different relations, e. g. one for commercial debts, one for government debts, one for taxes, one for prices in home trade, one for prices in foreign trade, and so on. It should be noted that a similar statement can be made with respect to standard money. It is quite possible to conceive a system wherein every one of these fields has its own special standard money. Such a system would be a very awkward one indeed, and fortunately no such exists. But in times when the standard seems likely to change, attempts are made to maintain one special money as standard money for a particular field. At such times the lender specifies that the debt must be paid in some special money, say, gold coin of full weight and fineness. By this he does not mean literally that he wants gold coin, but only that the dollar in the contract shall be understood to have an amount of value equal to that of standard gold coin. If a new money has come in and gold has gone to a premium being worth \$1.85 in the new money, he will take the new money in payment but only at a rate of \$185 per \$100. Such a provision in a contract fixes the standard money for that contract, the money which determines the meaning of a dollar as used in that contract. At the present time, we have little occasion to recognize different standard moneys; but for certain theoretic purposes it is necessary to distinguish in thought two cases, viz. (1) *the standard money for prices* and (2) *the standard money for debts*.

This is perhaps as good a place as any to finish up a matter commented upon at the close of the first chapter, i. e. the practice of giving as one of the functions of money, being a standard of debts. It was explained, when the matter was formerly mentioned, that money surely can not be a standard for any kind of debts but *money* debts, and to say that money is a standard for money debts is meaningless. It was further remarked, however, that there needs to be a standard money and an ultimate standard for money

debts. This statement is now perhaps fairly clear, as of course it could not be when first made. There needs to be some particular money which *immediately* determines the value of the money unit in money debts which, therefore, is the standard money of money debts. Further, if we are not satisfied to have this standard money floating around loose but wish to anchor it to a definite quantity of some material substance, then there must be some outside thing which determines the value of the standard money and so *ultimately* determines the value of the money unit in money debts. That something constitutes the ultimate standard of money debts.

We have considered the nature of standard money. We come next to the *functions* assigned to it as a part of the monetary stock. Standard money, as we have seen, is the pace-setting money, the one which fixes the proper value of inferior or subordinate moneys, and the one which immediately fixes the value of the money unit in other relations. But some special provisions are necessary to keep inferior moneys up to the mark set by standard money; for all the inferior moneys are intrinsically worth much less than their face value and in the absence of hindering forces would naturally fall away from their face value,—a result which, for various reasons, is in the highest degree undesirable. Further, there is probably no really effective method of holding inferior moneys up to standard money which does not involve the presence in the monetary stock of a considerable amount of standard money. For, though it is doubtless true that good management, particularly a rigid limitation of the amount, can do much toward holding up the value of any non-standard money, still there is only one sure way of doing the work, viz. *to keep such non-standard money directly convertible* into standard money. Persons needing to exchange any inferior money for standard money must be able to do so without material difficulty or

else the inferior money will become less valuable. But to insure this condition it is almost indispensable that at one or more points in the system there should be maintained funds of standard money from which this kind of money will be given in exchange for one or more of the inferior moneys to all persons who may apply. One of the most important functions, therefore, of the actual stock of standard money is *to make up these funds or reserves* which need to be kept for the redemption of inferior moneys, and *in doing this to maintain the parity of inferior moneys*.

A second function of standard money which is accomplished along with the first, though it should be distinguished from the latter, is *maintaining standard money in its place*, that is, keeping the place filled by the same money. It was just explained above that, unless something is done to hinder such a result, inferior moneys are likely to fall in value from the standard and that this is for various reasons quite undesirable. One of the most important of these reasons is the fact, which will later be explained, that, if one of the inferior moneys, *which is at the same time a full legal tender*,* becomes cheaper than standard money, it will oust from the position of standard money the present incumbent and itself usurp the place. As this would mean a sudden change in the value of the money unit, thus altering without warning the meaning of all existing contracts, it is plainly something to be avoided at almost any cost. It is thus of prime importance that those inferior moneys which are legal tender should be kept convertible on demand into standard money, as a condition necessary to the maintaining of standard money in its place. This then constitutes one of the most important uses, indeed the most important use, to which the stock of standard money is put, viz., making up the reserves from which legal tender infer-

* This may happen in the case of a money which is only by custom a good tender.

ior moneys* are redeemed, and so keeping standard money in its place.

We have just seen that the most important uses of standard money in any system are to maintain the parity of inferior moneys and to maintain standard money in its place. These functions might be called *systemic* or organic, that is, their business is to keep the money system as a whole in good running order. But it must not be supposed from this that standard money never does any of the ordinary, regular, work of money as a medium of exchange. In some European countries and in certain parts of this country—on the Pacific Coast particularly—gold is still employed as a common medium of exchange and means of payment for transactions needing money of the middle denominations, say from about two dollars to twenty. But by all odds the most important case where standard money is still employed for ordinary monetary purposes is in international trade, where it is the usual means of payment between international bankers. The explanation of this point needs a new paragraph.

In general there is in international trade very little direct payment with money between buyer and seller. What happens is that the seller turns over to his banker his claim for money on the buyer, or the buyer turns over to the seller a claim gotten from *his* banker on some bank in the seller's country. In either case, the seller gets his pay from a bank in his own country, while the buyer makes payment to a bank in his own country. This leaves some banks in the buyer's country in debt to some banks in the seller's country. Naturally this one debt will not be settled by itself; since there will be sales of goods in the opposite direction producing debts in the opposite direction, and these two opposing debts can easily be offset against each other, thus making unnecessary the sending of money either way.

* At least *one* inferior legal tender money.

What happens to these two debts tends to happen to all the reciprocal claims of two countries on each other. That is, those on each side will get into the hands of bankers and will be offset against those on the other side, thus tending to eliminate all use of money in this sort of trade. But it will turn out at times that the balance between the bankers of one country and the bankers of some group set over against it, persists in going one way for some weeks; that is, the country is continuously a creditor or continuously a debtor. In such a case it will usually be necessary that the money itself should be sent one way or the other. But for this purpose none of the subordinate moneys of any country will answer; for their value being largely fictitious, due to laws or customs which are merely local, the bankers of other countries will not accept them, but insist on receiving money which has metallic value and receiving such money at a rate corresponding to its metallic value. Standard metallic money, therefore, is employed for this purpose.

D. Quasi-Standard Money.

We have now a notion of the nature and functions of standard money, the principal money of any system. We must next consider *the subordinate or auxiliary moneys*. First in importance among these is one which I shall call *Quasi-Standard money*. As we have just learned, the most important functions of standard money are systemic, i. e. they are concerned with keeping the whole monetary system in good working order; and these functions are (1) maintaining inferior moneys at par and (2) maintaining standard money in its place. Now it has thus far been implied that this work is done by standard money only; and, speaking broadly, this was the earlier practice. Each kind of inferior money was kept convertible into standard money directly, and all were of substantially the same rank. But in the course of the nineteenth century most of the leading countries developed another system, a system in which one

of the subordinate moneys is selected to assist in the task of maintaining the parity of inferior moneys. Such a money I call quasi-standard money.

The conditions involved in working out this scheme are these two. First, the subordinate money in question is made a full legal tender. Secondly, this money is itself kept directly convertible into gold or standard money. The second condition keeps this money at par with standard money. The first condition permits it to be used rather than standard money to redeem the other inferior moneys, or credit substitutes for money, which are therefore kept at par with *it*. But, since it is at par with standard money, the inferior moneys, though redeemable only in it, are also kept at par with standard money. Accordingly, money of the sort described must be looked on as decidedly higher in rank than other subordinate moneys, and as one which in a measure performs the functions which naturally belong to standard money. I therefore call it quasi-standard money. To contrast this sort of money with standard money proper, as the latter is sometimes called the money of *ultimate redemption*, so this might be called the money of *proximate redemption*. A good illustration of quasi-standard money is the legal tender treasury note of the United States, the so-called greenback. Being kept at par with gold coin by redemption and being substantially a full legal tender, it answers just as well as gold coin to make up a large proportion of the funds which need to be kept to redeem fractional coins and bank notes.

In addition to this function of maintaining inferior moneys at par, there is another duty naturally belonging to standard money which in a considerable measure falls on quasi-standard money, viz., *acting as banking reserve money*. In explaining the uses of money in Chapter I, I pointed out that because of the existence of banking, a business which takes care of the ordinary working funds of individuals and corporations and, therefore, is always in debt for

large sums payable on demand, it is necessary that there should be stores of idle money* kept ready to meet such obligations, which stores are called reserves. Now it will readily be seen that these reserves need to consist of money which is *able to pay debts*. Doubtless with many creditors any money will answer. But to meet the case of creditors who may prove exacting, there must be in the reserve a constituent which consists of legal tender money, money which the creditor is obliged to accept in settlement of his claim. Now, if only standard money had this status, the reserves would need to consist largely of such money. But as matters are, the standard money constituent may, without harm, be quite small save at certain points where gold is especially needed. In all ordinary cases quasi-standard money—a legal tender money redeemable in standard money—does the work just as well. At the present time almost one-half the national banking reserve, excluding New York City and the Pacific Slope, consists of legal tender treasury notes, i. e. quasi-standard money.

In this account of quasi-standard money I have had in mind more particularly the system of the United States; but, as already implied, this kind of money is not peculiar to this country. England's case is still more typical. In her system the quasi-standard money consists of the legal tender notes of a great central bank—the Bank of England. These notes only are constantly convertible into gold, —other notes and bank credit being commonly convertible merely into Bank of England notes. In other words, the lesser banks generally keep their money reserve in the shape of Bank of England notes.

E. Circulation Moneys.

Having disposed of standard and quasi-standard money, the remaining kinds may be grouped together as *Circulation Money*. As the name indicates, these are moneys specially fitted, and almost exclusively used, to serve as the everyday

medium of exchange. They are being passed from hand to hand in payment for goods or services or are being held ready for this use in the near future.* In general, circulation money needs to show very great *variety* as respects *denomination*; since, being actively employed in effecting all sorts of transactions, it needs to be available in almost every imaginable amount. Of course we can not attain this by having an infinite number of denominations. Instead we make up irregular amounts by effecting the proper combination among several different denominations. Still this necessitates a considerable variety. Again, because circulation money must show variety in denomination, it must also show *variety* in *composition*. We can not very well make cents out of gold or dollars out of copper. For smaller moneys we employ cheap metals, using three different ones for denominations under twenty-five cents. For larger denominations gold is used more or less, but, generally speaking, nothing will do in this country but paper.

Classified in a somewhat superficial way, the circulation moneys of the United States, excluding standard and quasi-standard moneys, are three, (1) bank notes for larger denominations (\$10 and upwards), (2) fiat silver or its certificates for the medium denominations (one dollar to five), and (3) base or subsidiary coin (including fractional silver, nickel, and bronze), for the small denominations. The first of these, bank notes, we can not well consider in detail, at this stage of our study. Their general character, however, is plain enough. They are credit money, promises to pay lawful money on demand or at sight, issued by banks, and commonly used as money. The second kind of circula-

* It must not, however, be supposed that the moneys already considered, standard and quasi-standard, are never used for circulation purposes. They still perform this function in some measure, but they are not specially adapted for the purpose,—are in some cases intentionally made unfit for the purpose,—and tend to leave the work of circulation to specially devised moneys.

tion money, fiat silver, is more or less of an anomaly, an accident, a fifth wheel. In function and nature it most resembles base or subsidiary coin; hence its peculiarities will be most easily explained after we have considered subsidiary coin. We begin, then, with the latter.

The existence of base or token or *subsidiary money* has its explanation in two facts. First, as long as a metal of any considerable value is chosen as the standard, coins made of that metal will be too small for convenient use where small denominations are wanted, and so some representative or substitute money will be needed. Secondly, paper money is too frail to be suitable for the work which small denomination money has to do. Accordingly, the moneys of small denominations need to be representative or substitute moneys made of cheap metals other than the standard metal. That is, we need in the circulation one or more metallic moneys—coined moneys—different from the standard money as to their composition, yet all the time subordinate to standard money, not displacing it, and having their value fixed by it. Such moneys are properly called subsidiary. In the United States they include bronze cents, nickels, silver fractional coins (to which name subsidiary coin is most strictly applied), and silver dollars when circulating as coin. In essence, then, subsidiary money is a metallic representative, or substitute, money used chiefly for purposes of circulation.

Let us now give a more detailed account of the characteristics which belong to this kind of money in the United States at the present time. As the first characteristic we have the fact already brought out, viz. its manufacture from some *metal different from standard metal*. But this first characteristic naturally leads to one or more others. If subsidiary money is made of some substance different from that used in standard money, there will always be some chance that such subsidiary money will get to be different in value from standard money, with more or less disastrous

consequences. Thus the metal of which money of this sort is made might rise in value, till the coins became worth more as metal than their nominal value as coins. This condition would naturally cause money of this sort to be withdrawn from circulation and sold as bullion, thus depriving the country of this very necessary form of currency. Precisely this happened in the United States about 1850. At that time in law both silver and gold had the status of standard money; they were full legal tender and freely coined. But the new supplies of gold from California had cheapened gold, as compared with silver. Gold consequently became the standard, as will be explained in Chapter V; and silver half-dollars, quarters, and dimes commanded a premium of two or three cents on the dollar, and soon disappeared from circulation. How did we remedy the matter? Simply by making these coins lighter. Instead of 412.5 grains of silver to the dollar, we used 384 grains.* This made the silver in a dollar's worth of coins worth about 96 cents; and, so, no one cared to melt them for the silver they contained. This gives us the second characteristic of subsidiary money, *shortness in weight*, or being overrated.

But, as in so many other cases, a device for meeting one difficulty creates new ones of its own. We steer away from Scylla only to strand upon Charybdis. If subsidiary money is made short in weight, what is to hinder its becoming less valuable than standard money and, as a consequence, ceasing to be current as money or, if remaining current, causing endless trouble and risk or even usurping the place of standard money? These are serious difficulties; but the best ways of meeting them had been largely worked out in the experience of Great Britain before the United States made the change; so that all we had to do was to employ the methods which had already proved efficacious. In or-

* In 1853.

der to keep out subsidiary coins at par and, in doing so, to shut out the chance of their displacing standard money, *the amount issued was strictly limited*; and to insure this limitation they were *issued only on account of the government*, i. e. the mint stopped manufacturing these coins for private persons altogether. Still further to guard against the possibility that this inferior money would usurp the place of standard money, its tender was limited to a comparatively small amount, which provision also insured individuals against the inconvenience of having excessive amounts of small money forced upon them. Finally, in 1871 and 1879, to perfect the system, placing parity beyond question and guarding individuals and communities against any possibilities of excessive stocks of this kind of money, we provided for its redemption in lawful money at the treasury of the United States, just as if these coins were demand notes.

We have, then, as the characteristics of a fully developed subsidiary money (1) being composed of some *metal inferior* to the standard metal, (2) being short in weight or *overrated*, (3) having the status of *universal legal tender*, (4) having their *legal tender limited as to amount*, (5) being issued in *strictly limited amount*, (6) being issued on *government account* only, and (7) being kept *redeemable* in lawful money at the pleasure of the holder.

In the above account of subsidiary money, I have described the system existing in the United States at the present time. In one respect at least this system is not altogether typical. Subsidiary money is not usually kept redeemable. Further, recent experience seems to show that the fourth characteristic, limitation of legal tender, is not essential. In fact, of the seven characteristics named, three only seem really necessary, (1) made of inferior metal, (2) overrated, and (3) limited in coinage. However, the more elaborate provisions of our system are doubtless a real gain as *insuring* results which would otherwise depend on skillful management or good luck.

We are now prepared to understand the case of the *fiat silver*, which was mentioned above as the second kind of circulation money and the consideration of which was postponed to this point. This money, when circulating as coin rather than in the form of certificates, must be viewed as in essence a subsidiary coin. It lacks indeed the fourth and seventh characteristics; i. e. it is not a limited, but a full, legal tender and it is not redeemable. But after all it behaves as a regular subsidiary coin; it remains quite subordinate to standard money. We must add, however, that it can not be reckoned as a really satisfactory subsidiary money. As at present constituted, it constantly exposes our system to one serious danger. Not being redeemable, it is always liable to become less valuable than standard money; and, in that case, being a full legal tender it would certainly drive out standard money and itself usurp the place.

In this account of fiat silver I have had in mind all the time the actual silver dollars. The *certificates* issued on the deposit of silver dollars present a peculiar case. As already explained on page 46, we do not, ordinarily, need to distinguish between certificates and the coin which they represent. In the case before us, however, this statement is not quite true. Silver dollars and silver certificates play quite different rôles in our monetary system. Silver dollars, the coins, are a large-denomination subsidiary money. Silver certificates are a small denomination paper money. Further this difference effects quite important practical results. The need of the country for silver dollars as a species of subsidiary money is quite limited, absorbing only about one-ninth of those issued. But the need for silver certificates, as a small-denomination paper circulation money, is almost unlimited. Consequently, by circulating our silver money in both its coin and certificate forms, we manage to keep it all busy and out of mischief.

The net result of this is to justify the statement that

this kind of money is still more or less an anomaly, a fifth wheel. Doubtless it is not seriously wrong to divide our circulation money into two sorts, (1) bank notes and (2) subsidiary money and its certificates. But this is sacrificing precision to simplicity. A truer statement is that we have three circulation moneys (1) bank notes, (2) subsidiary coin, and (3) a mixed sort, fiat silver and its certificates.

As explained at the outset, this account of the different kinds of money is based more particularly on the system of the United States. It may be said, however, that it fairly covers the systems of most other leading industrial nations. Ours is peculiar chiefly in respect to greater variety and complexity. The simplest system is that of England. Its moneys are (1) for standard money, gold coin, (2) for quasi-standard money, Bank of England notes, and (3) for circulation money, (a) country bank notes and (b) bronze and silver subsidiary coin. The systems of Continental Europe are more like ours in that they have, in addition to the moneys enumerated for England, a fiat silver circulation money; but are more like the system of England in that, in so far as they can be said to have a quasi-standard money, it is a bank note rather than a government note.

IV. THE DIFFERENT FUNDS OR DIVISIONS OF THE MONETARY STOCK.

We have been considering the monetary stock as respects its composition, i. e. the several kinds of money which make it up, the nature and special function of each being explained. Another aspect of the monetary stock to which we must now give brief attention is its distribution into divisions or funds, these funds being determined according to the uses to which the money is being put or to the class of persons or institutions controlling it or perhaps merely to its geographical location. Thus it is natural in some connections to distinguish that portion of the stock which

is in the hands of the government from the part controlled by the general public, or again that portion which is used by the banks as reserve from the part in general circulation, or the stock in the chief money center from that of the rest of the country, and so on. I hardly need say that there are no hard and fast boundary lines between these different funds. One shades into another. Money is more or less freely passing from one into another. Still they can be, and for many purposes need to be, distinguished.

Looked at in the most general way the monetary stock divides into (1) Hoards, or money employed to store value and (2) the Effective Stock. By hoards we mean money which is set aside for an indefinite period from any employment as a medium of exchange. Even in a country like the United States, the amount of money of which such disposition is made is probably quite large. In times of panic its volume increases enormously and with serious consequences. Since, however, there is no way of ascertaining the proportion of the total stock put to this use, we can accomplish little by studying it. Hoards will therefore receive no further attention.

The *Effective Stock* is that portion of the money of the country which is employed, or at least is kept ready to be employed, whether actively or passively, in furnishing the circulating medium of the community. It may be divided in a variety of ways. From the standpoint of *function*—the most important standpoint—we have (1) the *Circulation Proper*, and (2) the *Reserves*, sometimes called respectively the Active and Passive stocks. By the Circulation Proper we mean the money which is actually passing from person to person in payment for goods or in discharge of obligations, or is being held ready to be given such employment in the immediate future. Of the circulation proper a considerable portion is in the pockets or houses of individuals. A more important part is the till-money of the merchant or

manufacturer,—the fund of actual cash kept on hand for making change or effecting minor cash payments,—a fund which is as necessary a part of a business man's stock in trade as are scales, showcases, wrapping paper, twine, and so on. The part of the circulation proper which consists of the two funds just described is often distinguished from the rest by calling it the Outside Circulation, i. e., the circulation outside the banks and the Treasury.*.

But this must not be thought of as the whole of the Circulation Proper. That division includes as well a part of the money held by the banks and the United States treasury. Thus, while bank holdings in large measure belong to the reserve division of the monetary stock, a portion of them is true circulation. That portion is the fund of free money—till money—which the bank, like the business house, keeps to meet everyday calls. It is the fund into which and out of which money is flowing all during business hours. It often consists in considerable measure of money which can not from its nature be counted as reserve, e. g. a bank's own notes. In like manner a portion of the Treasury's holdings must be thought of as a part of the circulation. For, while several hundred millions of the money in the hands of the Treasury are trust funds and reserves, that institution is obliged to have as well a working balance—a till fund—out of which and into which money is all the time flowing, just as it is all the time flowing out of, and into, the till fund of the banker or merchant. Such money is, then, very actively employed and so is most emphatically *in circulation*. Accordingly the Circulation Proper includes the outside circulation, the banking till fund, and the Treasury balance; and at times it is convenient to distinguish all of these. Commonly, however, the public blends the second of these divisions—the banking till fund—with the other funds of banks under the head of bank holdings.

* This phrase is also used for all the money *outside the Treasury*.

Having disposed of the circulation proper, we come now to the *Reserves*. In a general way, these may be described as funds set aside to perform certain necessary functions growing out of the existence of credit and credit substitutes for money. First, we have the *Required Banking Reserve*. Its office in guaranteeing and meeting the liabilities of banks to their depositors has already been brought out in Chapter I. In this country the amount of this reserve, as measured in deposit liabilities, is commonly fixed by law at from 15 to 25 per cent of those liabilities. Hence this fund is known as the Required Banking reserve. In other countries it is not usual to prescribe the reserve by law, but prudent banking furnishes a rule almost as binding, though less definite. In New York City, the clearing house association requires all its members to keep the amount of reserve prescribed for national banks.

The second banking reserve which we distinguish, we shall call the *Ultimate Banking Reserve*. It is really a portion of the total required banking reserve of the country; but it plays so important a part that it needs to be distinguished from the rest and given a special name. Its existence is to be explained as follows. For various reasons it is natural, almost necessary, that banks located anywhere outside the chief commercial center of the country should each keep money on deposit in some bank in that center, as also in some bank in each of two or three other cities which occupy toward the place where the first named bank is located the position of trade centers. But, secondly, it is also quite natural that each of these outside banks should wish to count as a part of its required reserve the balances kept with its correspondents in the other places; and such a practice is generally pursued, particularly in England and the United States:—in the latter case, it being specially authorized by law under definite conditions. As a result the banking reserve of a great center like New York can not be thought of as merely its own reserve. It is also a reserve for those

banks all over the country which are keeping part of their reserves in New York and also for those still smaller banks which are keeping a part of their reserves in the banks which are keeping their reserves in New York. In short, the reserve of the banks of New York is in no small measure the reserve of the United States as a whole.* It thus results that the banking reserve of the central city of any country comes to constitute the ultimate foundation of the banking credit of the whole country; and as such it deserves a special designation, the *ultimate banking reserve*.

A third banking reserve which needs to be distinguished, especially for a great commercial center like New York, is the *Surplus Reserve*. This is the amount of lawful money held by a bank in excess of the reserve required by law or sound banking practice. This surplus reserve is that portion of the money holdings of banks which furnishes a basis for loans. In other words, in so far as the lending power of the community depends on the banks,—and this is almost wholly the case,—that power is limited largely by the size of the surplus reserve. If the borrower insists upon cash, this is taken from the surplus. If, as suits the bank better, the borrower accepts credit on the books of the bank, in other words, becomes a depositor to the amount of the proceeds of his loan, then an amount equal to from 15 to 25 per cent of the new deposit must be deducted from the surplus reserve and credited to the required reserve.

Since the amount of the surplus reserve largely determines the loan power of the banks and therefore their capacity to support business and speculation, the business community in a great center like New York watches with eager interest the changes in the total surplus reserve of the city banks, as these are reported each Saturday morning. This total will in good times range from twenty millions down

* In England this practice is carried still further, the banks of London largely keeping their reserves in one London bank, i. e. the Bank of England.

to nothing or even less than nothing. Generally speaking, the better the times the smaller the surplus reserve; for good times mean the employment of all the money capital in productive enterprises and therefore mean much borrowing from the banks. This statement, however, must be qualified by the remark that over-eager speculation may absorb all the floating capital without necessarily meaning general prosperity. On the other hand, an excessively large surplus reserve, say, from seventy-five to one hundred millions, usually indicates commercial depression; for it means that business men are not borrowing, which in turn means that they are not carrying on a normal amount of business.

The three reserves thus far studied; viz. the required banking reserve, the ultimate banking reserve, and the surplus banking reserve, have to do more especially with the maintenance of credit in connection with the business of borrowing and lending money. The three which remain to be considered have functions even more vital in a monetary system. As already explained earlier in this chapter, *two* of the several kinds of money, viz. standard and quasi-standard money, are really used not so much to do money work themselves as to keep the rest of the money in shape to do that work. In particular, it is their business to keep at par all inferior money and to maintain the standard money in its place. Now, the particular portions of the stock of the moneys named on which these duties fall are the three reserves here under consideration, which, therefore, might be called the *systemic reserves*.

First among these reserves, making the fourth in the entire series, there is the *bank note reserve* which the note-issuing banks are obliged to keep in the Federal treasury to redeem their notes. This reserve consists of a fund of lawful money equal in amount to five per cent of the bank circulation. From it the Treasury redeems all notes presented and so insures their parity. A second fund of this sort which, theoretically at least, needs to be distinguished con-

sists of lawful money in the general fund of the Federal treasury which is to be thought of as held in reserve for the redemption of subsidiary coin, which, therefore, we will call the *subsidiary coin reserve*.

But the most important of these systemic reserves consists of a fund of \$150,000,000 in gold set apart in the Treasury for the sole purpose of redeeming legal tender treasury notes. This *treasury note* reserve is that portion of our stock of standard money which is more especially devoted to those tasks which, as we learned earlier in this chapter, constitute the most important functions of standard money, viz., (1) maintaining the parity of inferior moneys and (2) maintaining standard money in its place. This particular reserve is, indeed, devoted to maintaining the parity of only *one* of the inferior moneys, i. e. legal tender treasury notes. But, since most other inferior moneys are kept equal to those treasury notes, they as well as the treasury notes are by the process kept equal to gold.

But not only does this 150 million treasury reserve in the last issue maintain the parity of inferior moneys, it also, in doing this, maintains standard money in its place. For, some of these inferior moneys being full legal tender, they would, if not kept equal to standard money, drive it out and the cheapest of them would take its place. I hardly need to say, then, that the treasury-note reserve is an element in the monetary system of the utmost significance. In a very important sense it is the foundation on which the whole system rests. It may quite properly be designated the *Ultimate Reserve*. For, while bank credit, bank notes, and subsidiary money proximately rest on the lesser reserves; *ultimately* they and the legal tender notes all rest on the treasury gold reserve.

In the United States the ultimate reserve is kept by the *Federal treasury*; since this institution issues the principal credit money, legal tender notes. In most other countries, the ultimate reserve is kept by some one bank which holds

a preëminent position, being allowed to issue notes which alone are legal tender or have some other prerogatives making them superior to other bank notes. In such case, this reserve is identical with the second reserve explained on page 70, and designated the ultimate banking reserve. For, where the ultimate reserve is kept by a central bank, that reserve is used both to redeem its notes, thus maintaining the parity of inferior moneys, and also to pay depositors, thus maintaining deposit credit.

PROBLEMS.

1. How does the amount of silver in an English money pound compare with the amount in a weight pound? (A pound of silver is now coined into 66 shillings.)

2. Answer the same question for the *Scotch* money pound of the 17th century. (See Century dictionary.)

3. What is the money unit of Russia? Japan? the Philippines? Argentina? Chili? (See Mint Report for 1900, pp. 480-517.)

4. What is the value of the English unit computed in American money? in French money? in German money? (For the amount of gold in the different units see Mint Report for 1900, pp. 480-517.)

5. What is the value of the American unit computed in French money? in German money? in Italian money?

6. What is the value of the American unit computed in the money of Argentina, which has a paper money standard? Is that a reasonable question?

7. Suppose we were to change our standard of liquid measure from 8.33 pounds of water to 8.33 pounds of sulphuric acid, which has almost twice the specific gravity of water, what would be the result to our gallon?

8. Suppose we should decide to put into our gold coins 12.9 grains per dollar instead of 25.8 grains. What would naturally be the result to our dollar?

9. The English sovereign contains 123.27 grains of standard gold. What is the English mint price of an ounce of standard gold?

10. The German mark contains 5.5+ grains fine gold. What is the German mint price of fine gold?

11. Mexico has a silver standard.* If silver should rise in value 10 per cent, would the Mexican dollar rise in value? Would it rise in price? Would the price of silver bullion in Mexico rise? Explain.

12. In the United States in 1860, gold coin was worth \$1.00; silver, \$1.03; most bank notes, \$.98 or \$.99. Which was standard money? What was the ultimate standard? Explain.

13. How much silver of standard fineness is there in two half-dollars? four quarter-dollars? ten dimes?

14. How many grains of *pure* silver are there in a standard silver dollar? How many grains of standard silver? What does the word standard mean in this use?

15. It is said that between 1834 and 1853, when the United States had legal bimetallism at a ratio of 16 to 1, promissory notes and other money contracts were occasionally made payable in silver dollars of standard weight and fineness. What was the ultimate standard of such contracts? What do you suppose was the cause of this practice?

16. "Silver dollars are just as much legal tender as gold. I don't see then why we can't say that they are just as much standard money as gold." Where is the mistake?

17. In May of 1905 Mexico stopped the free coinage of silver. Suppose that now she should continue to use silver as her standard money but should keep a dollar's worth of exchange on New York at a price of 2 pesos. What would then be her real ultimate standard? Explain.

18. October 1, 1891, Farmer A borrowed from the

* No longer true, 1906.

Ann Arbor Savings Bank \$1,700 payable four years from date on the multiple standard plan. On October 1, 1891, a unit of the standard was rated at \$13.25; while on October 1, 1895, it was rated at \$12.75. For how many multiple units must the note have been drawn up? What amount of money was needed to pay the principal when due? Consult Walker's Political Economy, pp. 370-375.

19. In the United States in 1840 the price of standard gold was \$18.60+ per ounce. By 1855 its value had fallen say, three per cent. What must its price have been at the latter date?

20. "I can not understand what people mean when they say that money has risen in value since 1873. Money is by common consent the measure of the values of all other things; and, therefore, its own value must be fixed, *can not* rise or fall." From an advocate of gold in the campaign of 1896. Explain fallacy.

21. A gold five-dollar coin will buy 80 pounds of sugar. The same coin melted into a lump will buy 80 pounds of sugar. Five silver dollars will buy 80 pounds of sugar. The same silver melted into a lump will not buy 40 pounds of sugar. What is the significance of these facts as bearing on a controversy as to whether gold or silver actually *is* our standard?

22. What do I mean by saying that in 1895 India really had a silver *coin* standard?

23. During the Civil War when most of the country was *on a paper money basis*, the people of California *succeeded in maintaining the gold standard*, chiefly by resorting quite generally to the practice of making all contracts payable in gold. What is meant by the phrases in italics?

24. From an editor in 1895: "I have a friend who is a farmer. *He owes no man a dollar.* But, because of the appreciation of gold, his farm, which ten years ago was worth \$10,000, is today worth only \$8,000. Thus the continued maintenance of the gold standard has robbed him of

\$2,000." Supposing the facts to be as stated, is the farmer any poorer than he was?

25. In 1873 the market price of standard gold in the United States was about \$21.02. By 1896 its value had risen, say, forty per cent. What was its price at the latter date?

26. "Legal tender money is money the *offer or tender* of which in payment of a debt constitutes under the law a *discharge* of the obligation." Is that correct? See some law dictionary.

27. Could I pay a debt of \$500 with silver dollars? with twenty-five cent pieces? with national bank notes?

28. What is the brassage on our gold coins? See Mint Report for 1900, page 515.

29. What is the seigniorage on our fractional silver when standard silver bullion is worth 60 cents an ounce?

30. If we had the free coinage of silver with the dollar of the present weight and fineness, what would be the mint price of an ounce of fine silver? of standard silver?

31. If we follow the usage of this book, can we at the present time properly call greenbacks fiat money?

32. The five-franc piece of the Latin Union and the silver thaler of Germany are both fiat coins. What then must be true of them?

33. What in our day are the two chief legal characteristics of standard money?

34. Show that in a very important sense we demonetized silver in 1873, although we only discontinued the free coinage of silver dollars.

35. The mint report for 1900 on page 498 says: "In brief, therefore, the Latin Union has the double standard (bimetallism) etc," yet on the same page is to be found conclusive proof that the Latin Union no more has the double standard than has the United States. What is that proof?

36. If we should discontinue the free coining of gold,

so that the exchange value of gold coin came to be ten cents greater than that of the bullion in it, what would then be our standard money? Our ultimate standard?

37. It occasionally happens that bankers who deal in international exchange will accept the bank notes of other nations to a limited extent. Thus, Liverpool bankers will accept our bank notes from steamship officers, though they will not accept Canadian bank notes. What use can they make of our notes which makes them ready to accept those notes?

38. In Germany there is one great Imperial bank and several smaller ones of a local character all of which issue notes. None of these notes by whatever bank issued are legal tender, and yet the notes of the Imperial Bank seem to form a quasi-standard money. Can you imagine an explanation?

39. Copy the reading matter on the front and back of a national bank note; a silver certificate; a treasury note.

40. "Silver half-dollars, quarters, and dimes should be thought of as, so to speak, mere metallic treasury notes." Explain.

41. Why do we say that a particular metal is *over-rated* by the mint when the coins made of that metal are debased or short in weight?

42. England does not, like the United States, provide for the redemption by the government of subsidiary and token money. Do you see any advantage or advantages in our plan? See Jevons' Money and the Mechanism of Exchange, p. 119.

43. September 7, 1899, the reported reserve of the national banks of the United States was \$890,500,000, though the actual cash held was only \$466,400,000. How do you explain this apparent discrepancy?

44. In February of 1894 the surplus reserves of New York, reached \$111,000,000, though in ordinary times they range from two or three to twenty-five or thirty millions.

How do you explain the extraordinary size of this fund in 1894?

45. If our Federal treasury should retire finally all its outstanding notes, on what institutions would the maintaining of the ultimate standard reserve probably fall? Why?

46. Make a statement showing the amount of each of the different kinds of money in the United States at some recent date. (You can get the facts from the last report of the Secretary of the Treasury or the last Statistical Abstract).

47. Make a statement showing the circulation of silver dollars (coin) for every fifth year beginning with 1880 and coming down to 1905. Same for silver certificates. Do you see any significance in the facts?

(Same sources as before).

48. Make a statement showing the amount of the total reserve and the surplus reserves of the New York banks, together with the rate of discount on call loans, as reported each Saturday, for the months of August and September last. Have the facts any significance?

(You can get the information from the Commercial and Financial Chronicle or any Sunday newspaper).

49. Make a statement showing the movements of money between the New York banks and the Interior and between the New York banks and the Sub-treasury for each week of the months of August and September last.

(Commercial and Financial Chronicle, opening article on the Financial Situation, at the end).

50. Until within a few years the United States treasury in computing our monetary circulation was accustomed to count both the gold and silver certificates in use and the coin held in the Treasury to redeem those certificates. Was that reasonable? Explain.

CHAPTER III.

MONETARY PRINCIPLES—THE NATURAL LAWS OF CIRCULATION.

We have now before us a fairly complete idea of the typical monetary system. We must next take up the principles, or natural laws, regulating monetary phenomena. For of course monetary phenomena are governed by natural laws quite as truly as the phenomena with which botany or chemistry or physics is concerned. Doubtless we must admit that, in the form of statement which is found most convenient, these laws are less rigid and universal than those of the physical sciences; but, generally speaking, they are no less real and no less important. Thus governments can no more drive a particular money out of circulation or keep it in some particular part of the circulation or make a particular metal the monetary standard, by merely decreeing such a result, than they can bridge the Detroit river by that process. But any one of these objects, as also any one of numberless other objects which might be suggested, governments can easily accomplish, if only they will use the proper means; that is, if they will establish such conditions that the natural laws which govern the matters in question will themselves work out the results desired.

The first group of monetary principles which we will study consists of those which are concerned directly or indirectly with the capacity of money to circulate, i. e. to constitute a part of the monetary stock. Will a particular money circulate at all? In what part of the field will it have most complete circulation? Of two moneys which will show itself more tenacious in circulation? What character will be given to the monetary stock as a whole or to

any particular part of it because of the peculiarities of different moneys as respects capacity to circulate? These are some of the questions we must now try to answer.

I. GENERAL CONDITIONS.

We begin with the *general conditions* which regulate capacity to circulate. First, it is plain that these conditions can all be included under one or the other of two classes, (1) those which determine how much tendency to get into circulation a money will have and (2) those which determine how much tendency to get out of circulation it will have. Every force or condition which strengthens the hold of a money on the circulation must do so by increasing its tendency to get in, or diminishing its tendency to get out, or both. On the other hand, every condition which weakens the hold of a money on the circulation must do so by diminishing its capacity or tendency to get into circulation, or increasing its tendency to get out, or both.

But what now are the conditions which determine the strength of these two opposing tendencies, the tendency to get into circulation and the tendency to get out of circulation? The *processes* by which a money gets into circulation, omitting the mere exchange of one kind of money for another, are three; (1) being exchanged for goods, (2) being paid to creditors, and (3) being loaned to borrowers. Now any one of these processes plainly involves action on the part of each of *two* persons, the *issuer* of the money and the *receiver* of the money. The former must pay it out, the latter must accept it. It follows, then, that the tendency of a money to get into circulation depends on the conditions which determine whether the issuer *can and will pay it out* as a buyer or a debtor or a lender, and whether, on the other hand, sellers or creditors or borrowers will *accept* it. As far as *paying out by the issuer* is concerned, this need not long delay us. The issuer must *gain* something by is-

suings and he must have *opportunities* to issue. Gaining something is usually assured the issuer unless in the case of paper money the conditions of issue are so elaborate as to offset the profit. Opportunities come most frequently to those who have large dealings with the public as buyers, debtors or lenders. This is plainly more likely to be the case with governments, or with banks, than with manufacturers or farmers. Accordingly the notes of governments or banks have much more tendency to get into circulation than would those of manufacturers or farmers.

But, as said above, getting money into circulation requires not only paying out by the issuer but also *acceptance* by the person receiving. How is this secured? Acceptance may be either compulsory or voluntary. In the case of a particular money, some persons at least may be in such a position that they have no choice but to accept it whenever offered. With other moneys, on the other hand, entire dependence may be placed on the voluntary action of receivers. Where resort is had to *compulsion*, it is common to make creditors of the issuer accept the money in full settlement of their claims. In extreme cases, even sellers of goods are compelled to give up their goods to the issuer and accept his money in exchange. Manifestly a money having these prerogatives can more easily get into circulation than one without them.

But it is not always good policy to make the acceptance of money compulsory. Further, even if this element comes into the case, it is also desirable that the money be able to get into circulation because voluntarily accepted by sellers and creditors; that is, a money should have the property of *voluntary acceptability*. How is this secured? What leads a person to accept a particular money when the issue is clearly drawn, when he is acting in the matter with full consciousness? In the first instance, undoubtedly, the acceptor is determined by the belief that he can later pass the money to others, that he *can use it to buy goods or pay*

debts.* For, generally speaking, no one accepts money for any other purpose than in turn to use it as money. We may confidently say, then, that the primary basis of voluntary acceptability for any money is the belief of the receiver that he will be able to make of such money a monetary use.

But every person, in accepting a money with the expectation that he will be able to use it as money, must recognize the possibility that he will prove mistaken, that, between the time he receives it and the time he wishes to use it, its power to pass will have been lost. How is it that this possibility does not lead him to refuse it altogether? Doubtless, he at times takes his chances, driven by a sort of moral compulsion to be remarked on later. But, generally speaking, the acceptor demands in the background a sort of collateral security. He wants in the money he accepts an element which insures to him a satisfactory alternative if it proves unsatisfactory as money. Thus, it may contain bullion worth as mere metal the full face value of the coin, or it may be a promise to pay which is convertible on demand into full weight metallic money, and so on. This leads us to affirm that the secondary ground of the acceptability of money is the assurance that in case it should cease to be usable for monetary purposes, some other satisfactory disposition of it will be available to the holder.

We have run over the conditions determining the tendency of money to get into circulation. We must now take up those which regulate *the tendency to get out*. Broadly speaking, money gets out of circulation in either of two ways. It is *driven* out or it is *drawn* out. In the first case, the public object to it as money and put it out. In the second, people wish to make of it some non-monetary use and withdraw it from circulation. In the first case it is usually too bad to stay in; in the second, too good. Driving a

* At this point, voluntary acceptability is created by compulsory acceptability. The fact that a given money is a valid tender makes people *willing* to receive it, since they can use it to pay debts at least.

money out of circulation may take either of two forms, "stalling" and "return to the issuer." A money is put out by "stalling" when it ceases to pass simply because people generally refuse to accept it in exchange for goods or discharge of obligations—the last acceptor finds the money on his hands useless for any monetary purpose. Such was the fate of the Continental currency of our Revolutionary War, also that of the Confederate currency of our Civil War. "Return to the issuer," as a method of putting a money out of circulation, applies only to credit money, and best to bank notes. Such money is out of circulation when in the hands of the issuer, since *he* can not count it as *the equivalent of real money as other persons can*. For other persons can require him to redeem the notes in real money, or its equivalent, and so can use those notes to get such real money if preferred to the notes. The issuer, however, has no such means for transforming notes into real money.

Driving a money out by "stalling" is quite rare and need not delay us. Plainly it is not easy of application in the case of a money which has the status of legal tender. Though such a money has been stalled by a resort to the general use of special contracts setting up another standard for debts. This was the case with greenbacks in California. Whether a money not a legal tender is likely to be driven out in this way obviously depends on the public readiness to receive it. Before it can be put out, its acceptability must have been completely lost. But in this we have no new problem, since the conditions of acceptability have already been commented upon.

We pass on to the case of "return to the issuer," a method of expulsion which, as already noted, is applicable only to credit money and most to bank notes. What conditions regulate the tendency of a money to get out by this process? Plainly the holder must have a motive for sending such money home and must not be hindered from doing so by obstacles which make the operation seriously troublesome

or expensive. *Motive* is determined chiefly by the capacity of the money to do money work. If the holder can use it for every kind of money work, he will not care to get it redeemed in any other kind of money. If, on the other hand, he can not use it to make some particular kind of payments which he is often called on to make, e. g. duties on imports, or for some other important purpose, e. g. making up bank reserves, he will naturally hasten to return it to the issuer to be exchanged for better money.* As respects *eliminating obstacles* to such returning of notes, this depends chiefly on having suitable redemption machinery, both local and central. If a note-holder is in Boston and the issuing bank is located in Butte, Montana, and the note holder has no way of securing redemption except to send the note from Boston to Butte and bring back the money at his own expense, there is not likely to be a great deal of such sending done. But, if every national bank must accept (still better redeem) the notes of every other, and if at every important center there is some agency to redeem the notes of every bank at the expense of the issuer, the sending in of notes will be frequent, provided there is any motive for doing so.

We have learned the general conditions determining the tendency of moneys to get out of circulation by being *driven out*. A word now with respect to the conditions which regulate the tendency to go out by being *withdrawn*. The processes by which withdrawal takes place are chiefly these, (1) recoinage, (2) hoarding, (3) exporting, (4) melting, and (5) marketing. Of these the first obviously applies only to coin and that to inferior coins. Under ordinary conditions it takes out a comparatively small amount of money. The processes remaining attack chiefly the better part of the currency. Thus it is evident that a person of sound judgment who wants money to hoard will naturally choose

* Motive to return also depends on the profitableness of issue.

the superior money, unless its superiority is likely to disappear; for, by choosing the best, nothing is lost and something may be gained. Thus, one who hoards silver dollars or bank notes the value of which is largely conventional, takes the risk that something may happen during the period of hoarding to destroy the fictitious element in their value, while with full-weight gold money he avoids this danger altogether. Quite similar reasoning applies to bank reserves. Since banks must in any case keep large sums idle, they may just as well choose for the purpose money which is of the highest grade, and hence not liable to involve them in any loss. Accordingly, it seems safe to say that, generally speaking, a better money, one of higher value—actually or prospectively—is more likely to be withdrawn from circulation by hoarding, than a poorer money.

Substantially the same point as that just made with respect to hoarding can be made in the case of *melting* also. Better money—meaning here money having greater bullion value—is more likely to be withdrawn from circulation by melting than poorer money. A gold eagle containing 258 grains is more likely to be melted than one containing 257 grains, since as a lump of metal it is worth about 4 cents more. *Overrated moneys simply will not be withdrawn at all.* No one can afford to change a silver dollar worth 100 cents into a lump of silver worth little more than 40 cents.

The case of withdrawal by *export* is in no material respect different, though the argument is not just the same. As we learned earlier, in dealings between nations, money is accepted only by weight; so that any deficiency in the metallic value of a coin below its exchange value at home will mean just so much loss to the exporter. Exporters, therefore, naturally select those coins which come nearest to being full weight; and, like the person who melts coin for the metal in it, they can not use overrated coins at all.

The last process of withdrawal, i. e., “marketing,” ought, perhaps, to have been treated as already covered by melt-

ing or exporting or both. I mean by *marketing* turning the money into a commodity, treating it like wheat or copper or oil, selling it to some one for some other current money. Thus, when in the early part of our Civil War gold money had gone to a considerable premium in the United States, it very generally ceased to be treated as money, being sold to some one wanting gold, or stored for future sale. Manifestly the likelihood that this operation will take place is increased or diminished as the market value of the given money increases or diminishes. If at a certain time during the Civil War the gold premium had been 2 per cent, the likelihood that gold would be withdrawn from circulation and sold like wheat or cotton would have been much less than when the premium was 15 per cent. In this case, then, as in the preceding ones, better money is more likely to be withdrawn than poorer money. Indeed, it ought perhaps to be added that no money which is not so good as to be better than par will be withdrawn by this method.

II. PRINCIPLES.

The preceding discussion has furnished us with the general conditions upon which the capacity of a money to circulate depends. On the basis of this analysis we are now prepared to set forth in more formal shape the more important laws or *principles* which, working through the conditions already brought out, regulate the currency of moneys.

Principle 1. *Under modern conditions in most civilized countries the full and continuous circulation of any kind of money in any particular country commonly requires a measure of legal authorization from the government of that country.*

The most decisive proof of this principle is to be found in the fact that, save in exceptional cases, the currency of a money is limited to the country, or perhaps the district, where it is legally authorized. Even when nations are side

by side geographically, are very closely connected in industrial and commercial affairs, and use the same monetary standard and even the same denominations, there is usually no reciprocal use of each others' money, save along the border, unless such use is officially authorized by treaty or statute. Thus, the United States and Canada have both the same standard, 25.8 grains of gold, the same current denominations, dollars, half-dollars, quarter dollars, etc., and they are closely related in commerce and industry generally; yet Canadian coin has no currency in the United States outside the border cities. In like manner Canadian bank notes which are among the best in the world, are amply secured by a safety-fund, and are redeemable not in government paper, like ours, but in gold, have after all no currency in the United States, outside of Detroit, Buffalo, and a few similarly situated places.*

Now, I hardly need add that this connection between currency and legal authorization is no mere accident. It is the most natural thing in the world that people should be slow to accept any money which lacks legal authorization. For even a small measure of governmental recognition furnishes for any money a sort of governmental guarantee, which is found to have weight with all men, more especially with the masses of men. In the first place, government authorization of any sort creates a presumption that the money is a good one, issued under conditions which insure its goodness. Governments nowadays feel a high degree of responsibility with respect to the circulating medium. The presumption is that they have so safeguarded the processes of manufacture and issue, that any money put in circulation by their authority will prove good, and that they are taking such effective measure against counterfeiting that any money which seems to have been issued by their authority really was so issued.

* Apparently there is more use of United States money in Canada, than of Canadian money in the United States.

But, in the second place, while this presumption of goodness is fairly strong for a money purporting to have been issued by the authority of any government, it is much stronger if such money claims to have been issued by the government of the very country where it is offered in exchange. Naturally the American will have greatest faith in the American government, the Englishman in the British government, and so on. Further each is likely to know the system of his own country and its quality is a matter of certainty, while that of an alien government suffers, in our estimate, from all the doubts which we attach to the unknown. Further, the government of any country always provides for the rigorous suppression of counterfeiting as regards its own moneys; but it gives little attention to safeguarding the moneys of other nations. It is perfectly natural, then, that the circulation of any particular money should be limited to that country the government of which furnishes the authority for its issue. While money often gets into circulation outside the country where it is legally recognized, it soon falls into the hands of bankers or dealers in exchange and is by them returned to the country of its issue either for collection or to cover drafts drawn on that country.

Principle 2. *Under modern conditions representative money which is not redeemable, directly or indirectly, in either standard money or goods, seems generally to require, as a condition of currency, that it should be a valid tender in some important relation, e. g., payments to government.*

It has already been made out in Principle 1, that some degree of legal authorization seems necessary to the currency of a money. The principle before us goes further and affirms that in certain cases the currency of a money requires that it should have the status of a valid tender in some important sort of payment. Thus, it is difficult to believe that fractional silver, when not redeemable, would have currency, if it were deprived of the prerogative of being a

universal legal tender for small sums, or at least a legal tender in payments to government. Similarly, it is almost impossible to believe that the irredeemable treasury notes issued during the Civil War would have gained and kept currency, if they had not been a legal tender among private persons, or between government and the public.

To prove conclusively a proposition such as the above is, of course, impossible, but there is obviously a strong theoretical presumption in its favor, and pretty decisive confirmation from experience is available. Such confirmation is to be found in the fact that in repeated instances governments have found it easy to expel an obnoxious money from circulation by depriving it of all legal tender status, i. e., relieving creditors of the obligation to receive it in payment of debts, and refusing to accept it for public dues. Thus, within the last few years the government of the United States has very largely gotten rid of Spanish and Mexican coin in the Philippines by this method of procedure.

Principle 3. *Standard coins which fall much short of legal requirements in respect to weight will not commonly remain in circulation unless, though short in weight, they continue to be a valid tender in some important relation, particularly in payments to government.*

This principle is fairly well established by the experience of European governments. Prior to the eighteenth century, the metallic currencies of most European states were almost incredibly bad. Sweating, filling, clipping, and other devices for stealing metal from the coinage were constantly practiced, and with such efficiency that, when in 1695 an investigation was made by the English exchequer, a quantity of coin which ought to have weighed 220,000 ounces actually weighed 114,000 ounces. As a matter of course governments had not been indifferent to such a condition of things. Laws punishing with Draconian severity all mutilating of the currency had long been in force. But they had proved of little, or no, avail. Finally, the

very simple plan was adopted of taking from short weight coins the right to be forced upon creditors or the public treasury. The effect was almost magical, particularly in England. Although still another reform* was needed to give something like perfection, we never again strike anything resembling the condition of the coinage in 1695. Standard coins seriously short in weight, when deprived of all legal tender status, simply will not circulate.

Principle 4. *As between two moneys having substantially the same function in a system, one of which is, and the other is not, a legal tender, particularly in payments between governments and the public, the former will usually show greater tenacity in circulation.*

Thus, the legal tender treasury notes issued during the Civil War seem to have proved able to displace, in a considerable measure, the bank note circulation. The reason for this is not far to seek. The money which has this prerogative of legal tender can be *forced* into circulation, not only in the first instance, but also as often as it may have been driven out. But, of course, no such possibility is open to a non-legal-tender money; it must depend on voluntary acceptance.

Principle 5. *There is a quasi-compulsion which helps to secure some currency for a money—at least delays its being driven out,—even though it is not legal tender and is for various reasons unacceptable.*

The preceding principles have brought out the influence of legal compulsion in determining a money's capacity to circulate. The principle now before us calls our attention to the part played by what is often called moral compulsion. It is a familiar fact that our conduct is influenced not only by the direct action of government but also by the existence of conditions which make our advantage dependent on a certain line of conduct. In the case of the circulating of

* See Problem 33, at the end of the chapter.

money, this moral compulsion, this quasi-compulsion has its origin in the fact that each of us is in a way at the mercy of the person to whom he wishes to sell his goods or services. Under a money régime, as we have seen, exchange is broken into two operations with an interval between. We sell our wares for money; we use the money to buy other people's wares. But these two operations differ very much as respects their difficulty. It is easy to find some body ready to *sell* goods; it is hard to find somebody ready to *buy* goods. The seller's goods are commonly useless to him except to get other goods with, and, in most cases, must be quickly disposed of or they will lose value. He must find a buyer at all hazard. Rather than not make a sale, he will accept some doubtful kind of money. That is, the anxiety of sellers to effect sales enables buyers to force upon them undesirable money.

Again, it is a familiar fact that this same anxiety for a market makes us very careful not to offend a customer. As sellers of goods or services we put up with much impatience, ill nature, and unreasonableness, which we should resent very energetically if we could do so consistently with business success. A necessary part of this complaisance is not being too particular as to the character of the money which we accept in exchange for our wares. Small retailers and workingmen feel almost compelled to accept whatever money is offered, unless it is hopelessly bad. We thus see that there are moral forces which tend to secure for almost any kind of money a quasi-compulsory acceptance. But such acceptance helps a money to get into circulation and hinders its getting out of circulation. It, therefore, helps to secure the currency of that money.

The importance of the principle just brought out will appear incidentally in the further discussions of this chapter. But I wish here to illustrate it from a case which will naturally come up later. Some writers have contended that the issue of circulating notes should be absolutely free,

that, if people are willing to accept John Smith's promise to pay instead of money, that is their own business, and the government should not meddle. The unsoundness of this view is seen at once when we have learned the law under discussion. Many people, and particularly those who, as being in a weak position economically, can make the strongest claim to the protection of the law, *are not perfectly free* to accept or reject any money which may be offered them. Instead they are more or less under compulsion to accept. The state, therefore, ought to make an effort to safeguard them against loss from such action.

Principle 6. *Only full-weight metallic money has any considerable currency in international trade.*

The reasonableness of this principle is easily made evident. First, the dealers or bankers of one country can not ordinarily utilize the money of another country *as money*. They can not use it *within their own country*, since according to Principle 1 it will not circulate there. On the other hand, they probably can not afford to use it as a means of making payments *to the country from which it comes*; since they would not likely need it for this purpose for a considerable time and in the meanwhile would *lose interest* upon it. Accordingly, bankers or dealers must reckon on disposing of a foreign money in some other way than by making a money use of it,—they will use it as metal or send it home to be exchanged for metallic money. But of these dispositions only the former is satisfactory; since to send the money home for redemption means too much expense and trouble. Accordingly, bankers will commonly have to use foreign moneys as mere metal, and hence will commonly demand full-weight metallic money.*

* I am not sure that I have chosen the best explanation of this principle. It might perhaps be more correctly traced to the lack of faith in *foreign* things which shows itself in Principle 1. Only full-weight money carries its own guarantee.

Principle 7. *Any money which has an exchange value in any relation, greater than its nominal value as money will rarely remain in circulation.**

Thus, if at the present time a gold dollar could be sold for \$1.05 in some form of current money, it would at once disappear from circulation. The truth of this principle could be proved as completely as any law of physical nature by an appeal to experience; but the most convincing argument comes from a consideration of the causes at work. The self-interest of individuals can be depended on to take out of circulation a money which is worth more for some other use than its nominal value as money.

Two possible cases present themselves. (1) The money in question might pass at its nominal value only. (2) It might be accepted more or less widely at a premium above its nominal value. In the first case, the disappearance of said money would surely take place. Occasionally, indeed, careless or ignorant persons might offer the given money in exchange for goods. But sooner or later every piece would get into the hands of people more careful or better informed, and these people would quickly dispose of it in the market where its value was greater.

The second case, where the money in question passes at a premium, would not give so prompt expulsion as the former case; but the result would only be delayed. First, under any but the most favorable conditions, the premium on such a money allowed by the merchant would be less than that obtainable from the dealer in money. For, since the premium is constantly shifting, since the ordinary merchant is not in a position to know either the exact amount of the premium or its probable course in the near future, and since allowing for the premium involves labor and annoyance, therefore the dealer almost necessarily makes an

* This principle and the four following are often blended into one formula, "Bad money drives out good." Such a procedure has the advantage of simplicity; but it is greatly lacking in precision.

allowance safely *above* the market premium. Thus, even with a premium allowed, people will find it more profitable to dispose of such money to institutions which buy it as a mere commodity rather than to use it as money. Secondly, in so far as merchants do receive money which is at a premium, they, being more alert in such matters than the general public, will almost surely sell it as bullion rather than using it for till money. Finally, even though merchants are as careless as the general public, the money in question will presently get into the hands of bankers who will beyond question take it out of circulation.

Corollary 1. *If the legal or business conditions are such that coins which are much worn or even clipt, continue to be a valid tender in some important relation, particularly for public dues, coins of full weight will usually disappear from circulation.*

Argument: Under the conditions named, the short-weight money makes itself standard money, (See Principle 6, Chapter V) ; the full-weight money then comes to have openly or secretly an exchange value in excess of its nominal value, and so is brought under the operation of the principle.

The principle brought out in this corollary has been observed from the earliest times. It is often stated in this form: "Bad money drives out good." It is probably the one of many principles to which the name Gresham's Law has been applied which has the best claim to the title. In our day it has relatively little significance, for the reason that the condition requisite—that the money in question continues to be a valid tender—is now seldom fulfilled.

Corollary 2. *If, under a system of bimetallism, the market ratio between the two metals used as money comes to be different from the mint ratio, the metal which is underrated in the mint will commonly disappear from circulation.*

Thus when France was coining both gold and silver at a ratio of 15.5 to 1, while the market ratio was 15.3 to 1,

the silver rapidly disappeared from circulation. This was inevitable. First, since it took on the market but 15.3 grains of silver to equal 1 of gold, the mint in using 15.5 grains of silver for 1 of gold, used too much silver; that is, the bullion in the silver coin was worth more than the bullion in the corresponding gold coin. But in that case the silver coin must have been worth correspondingly more than the gold coin, that is, the silver commanded a premium in terms of gold. It, therefore, was withdrawn from circulation.

Corollary 3. *If a general suspension of payment on circulating notes is authorized by the government or is acquiesced in by the general public, the money which the notes promise to pay will commonly disappear from circulation.*

Thus, in December of 1861 the banks of the United States generally suspended gold payments, but continued, with the acquiescence of the public, to carry on business with deposit currency and notes. At once gold almost everywhere disappeared from circulation. That such a result was bound to follow is easily shown. Circulating notes are promises to pay on demand. If *immediate* payment is refused, even though ultimate payment is assured, some decline in value is certain to come,—the amount depending largely on the skill and wisdom of those who issue the notes. Again, since the suspension is more or less completely authorized, the notes take on the character of a *valid tender* for debts. Being thus the *cheapest valid tender*, they become *standard money*; that is, their inferiority in value shows, not in a discount on them, but in a premium on the money which they promise to pay. (See Principle 6, Chapter V.) But, since the money which the notes promise to pay is at a premium, it will, according to our principle, usually disappear from circulation.

Corollary 4. *A circulating note which bears interest tends to disappear from circulation whenever a claim for interest has accrued upon it.*

This was illustrated in the Civil War when the Federal

government issued several hundred millions of interest-bearing notes. On some of these the interest was payable semi-annually. In their case the note disappeared from circulation as the date for interest payment approached, then went into circulation again as soon as the coupon had been cut off and paid. On another class the interest was compounded semi-annually but not paid till the note matured, i. e., after three years. Of these compound interest notes the majority quite early passed out of circulation. They were treated as bonds for investment rather than as money. The reason in both cases is plain. As the interest claim on any note accrued, the holder found the note worth more than its nominal value and so held the note back or sold it to some bank for the face plus the premium.

Principle 8. *In the case of standard metallic money, the lighter coins, provided they are not sufficiently short in weight to come under the operation of Principle 3, commonly show greater tenacity in circulation than the heavier ones.*

In this principle we have the modern form of a principle which has been observed from the very earliest times. If either of two standard coins goes, it is not the worse but the better. A gold eagle which is a grain short in weight is more persistent in circulation than one of full weight. The principle has frequently been confirmed in experience, and its reasonableness on theoretic grounds is easily shown.

Stated in general terms, the argument for the principle is that the processes whereby a light coin which is good enough to circulate at all is gotten out of circulation are relatively less efficient in action than the processes whereby a heavy coin is gotten out. First, there is practically but one process whereby inferior coin of the sort described gets out of circulation, viz. withdrawal for recoinage. For by hypothesis these coins are not bad enough to be stalled—driven out under the operation of Principle 3; and they will not be withdrawn for hoarding, export, melting, or mar-

keting, since only superior coins are used for these purposes.

But, secondly, the process of withdrawal for recoinage is usually very limited in its operation. Since it involves considerable trouble, it will be undertaken only by a few great banking institutions which get hold of these coins in large amounts. But, since in most countries, inferior coins are accepted by mints and therefore by banks, only by weight, such coins are purposely withheld from banks and employed only in the general circulation. That is, depositors in taking funds to banks cull out the short weight ones and keep them for use as till money. Thus the banks normally get a chance to turn into the mint for recoinage only a small share of the inferior coins; and so the tendency of such coins to be gotten out by this process is very weak.*

We have seen that the processes whereby inferior coins are taken out of circulation operate with little efficiency. We hardly need to elaborate the other half of the argument, that is, that the processes which take out superior coins act strongly and effectively. One of these at least—melting—makes a very considerable and almost continuous drain, especially in those countries which maintain a considerable amount of standard money in circulation.

Corollary. *Generally speaking, the stock of standard metallic money tends to show a progressive deterioration.*

As a result of natural wear and fraudulent manipulation, that portion of the stock of coins which is in active use comes to be more or less short in weight. But, once this has happened, such coins are studiously avoided when any withdrawals are made and, thus, their continued currency is assured. On the other hand, the stock of full weight coins is constantly being depleted by withdrawals for use in the arts; while that portion which is left behind

* The reasoning of this paragraph has been weakened by recent legislation. See Problems 33 and 37.

goes into active circulation and soon joins the ranks of light weights. Thus, deterioration tends to become general.

This reasoning has been confirmed by experience times without number. Earlier the process of deterioration was often incredibly rapid, and the degree incredibly great. As already explained, laws of the severest sort proved unable to put a stop to intentional mutilation. Repeated efforts to restore the integrity of the metallic currency by recoinage were unable to effect more than a momentary improvement. Under modern conditions things have been by no means so bad. Governments have learned to utilize, in this connection, Principle 3. Still an investigation by Jevons into the condition of the gold coin of England in 1869 showed "that 31½ per cent of the sovereigns and nearly one-half of the ten-shilling pieces were then below the legal limit." (Money and the Mechanism of Exchange, p. 112.) The only plan which promises adequately to meet the difficulty, especially in a country which uses its standard coin for circulation purposes, is the assumption by the state of the entire trouble and expense of recoinage.

Principle 9. *As between a standard metallic money and bank notes, the latter usually show the greater tenacity in circulation.*

This is a proposition which could be established only by experience; and it has been so established. Nearly always when a satisfactory bank note is introduced into a circulation which previously had a large standard money element, the latter soon becomes comparatively insignificant in amount. The reasons are not far to seek. First, the standard money is subject to a drain not felt at all by the bank notes; viz. melting for use in the arts. Secondly, the process by which bank notes get out—going home for redemption—operates very weakly for two reasons, (a) the notes are quite as satisfactory as standard money, often indeed even more so, (b) securing redemption commonly involves some trouble and expense. Thirdly, any tendency which

bank notes may show to get out of circulation by being sent home for redemption, is largely neutralized by the fact that the bank has both motive and opportunity to discriminate in favor of the use of its notes when making cash payments to the public.

Principle 10. *As between bank notes at par and bank notes at a discount the latter are likely to show the greater tenacity in circulation.*

This principle is of no significance at present, but was often illustrated in the days when state banks issued circulating notes. Thus in New England in the early part of the nineteenth century, the country bank notes had more power to circulate *in Boston* than the notes of the Boston banks themselves.

The argument for this principle is analogous to that used under Principle 8. The good notes will experience more drain than the poor ones. Bank notes are retired by being presented to the issuer for deposit or redemption. But this operation goes on much more easily with good notes than bad ones. This is explained as follows. The chief agencies for effecting the presentation of notes to the issuing bank are its rivals—other banks. That is, when depositors bring in bank notes along with other money, checks, and drafts, the bank receiving these deposits will, under a system like that of New England, sort out the notes of other banks and send them to the issuer or his agent for redemption. But, if the notes of a particular bank are at a discount, business men will be careful not to present them for deposit, because they would then lose the discount. Rather, they will retain such notes for use as money in ordinary dealings, where there would very likely be no discount. Thus, the bad notes, failing to get into the hands of bankers, will fail to be retired. Good notes, on the other hand, will be started on the journey very promptly. Business men will sort them out purposely to deposit in the banks at the same time that they keep back bad notes for

the circulation. But, once the good notes get into the hands of the bankers, they are quickly retired by presentation to the issuing bank.

The last topic which the subject of circulation presents to us is the distribution among the different parts of the monetary stock of the several grades and kinds of money, with the effects on the composition of these different parts which this distribution produces. Which will get the inferior moneys, the circulation proper or the reserves? How will the monetary stock of centers like New York compare with that of the Interior? and so on? Here we have three principles of some importance.

Principle II. *The monetary stock tends to be distributed in such fashion that the inferior moneys are massed in the circulation proper, the superior moneys in the reserves.*

The expression "inferior moneys" here means those which are for any cause less desirable than some other. They may be wanting wholly or partly in the legal tender property. Even if full legal tender they may be short in bullion value and not redeemable. And so on. Thus, in the United States, bank notes are inferior to treasury notes in that they can not be used for bank reserves or to pay duties on imports. Treasury notes are inferior to gold or its certificates in that there is always a possibility that the obligation to redeem them might be suspended or repudiated. Silver dollars are inferior to the three named; to gold since they have less than half enough bullion value to cover their nominal value, and to treasury notes and bank notes in that, unlike these notes, they are not either directly or indirectly redeemable in gold. The principle tells us that the less desirable moneys gravitate to the circulation; the more desirable to the reserves.

That matters must work this way is plain enough from the circumstances of the case. That portion of the money stock will get the better money where the motives and power

to discriminate among moneys are stronger. And plainly this is the case with the reserves. People generally who are called on to accept the money in ordinary circulation have little disposition and comparatively little power to discriminate against any of it. On the other hand, with the reserve keepers; viz. the banks and the Treasury, the case is very different. First, they have powerful motives to choose among moneys, in that some of these,—e. g., non-legal tenders,—would be quite useless for their purpose, while others would be decidedly inferior in certain cases, e. g., silver to those bankers who are called on to furnish gold for export. Secondly, the banks, at least, have ample power to discriminate among moneys. The public are accustomed to a more rigid policy on the part of bankers than would be tolerated with any other class of business men. Besides, a bank has passing through its hands each day thousands of dollars; and, therefore, can by the exercise of a little care get rid of the inferior, and retain the superior, money without causing offense to any one. The position of the Treasury is not quite so strong. Still it has the advantage of dealing almost entirely with the banks, and that, too, the banks of New York City, whereby it gets the benefit of the discrimination exercised by those institutions. It is, thus, evident that the better money naturally gets into the reserves; the worse, into the circulation proper.

Principle 12. *The monetary stock tends to distribute itself so that the money of smaller denominations is in the circulation proper, while that of larger denominations is in the reserves.*

This law is an inevitable consequence of the causes at work. Such a distribution is most desirable from the standpoint of those who have the power to bring it about. The circulation needs to consist largely of small money; for this only could be useful for the purpose. This follows from the fact that its employment is to effect comparatively small payments and make change,—large payments being

commonly made with checks. On the other hand, the money of the reserves can scarcely be too large in denomination, since it is seldom transferred from one person to another and then only in large sums. Thus, it is desirable from everybody's standpoint that the distribution described in the principle should be effected. But the power to effect it is also present. The public, needing small money, will call on the banks for it; and they will gladly part with what they themselves do not care for. On the other hand, the banks desiring large denominations for their own reserves, will cull out such from the money constantly passing through their hands, and pass on the small money to the general public.

The principle before us has been made use of in a very ingenious way to avoid danger from the excessive stock of silver dollars. These dollars can not be used for export nor are they redeemable in gold which can be so used. It is therefore quite important that this sort of money should not be allowed to accumulate at those points from which money has to be taken for export, lest it should crowd out the gold which is needed at those points for this purpose. But the principal city from which gold needs to be taken for export is New York. It is, consequently, very important that the reserves of New York should be kept comparatively clear of silver.

Now this point just explained was understood from the first issuing of silver dollars in 1878. But during some years, accomplishing the work—keeping these dollars out of New York—proved to be no easy task. As coins, the country wanted less than 60 millions of them. Even in the form of certificates, running in denominations of ten dollars and upwards, the whole outstanding stock could not be kept busy. Some improvement was experienced when treasury notes of small denominations were retired; since this increased the unoccupied space in the paper circulation available for silver in the form of certificates. But a far

greater change—an almost magical change—took place when it was enacted in 1886 that silver certificates might be issued in one, two, and five dollar denominations. Under this plan, the country quickly absorbed the whole stock. And in spite of the subsequent great increase in the total amount, there has been most of the time no difficulty keeping this sort of money out of the central reserves. The Act of 1900 perfected the plan by *requiring* that all but ten per cent of the silver certificates should be in denominations of ten dollars and under, and that no more than one-third of the national bank notes should be of denominations under ten dollars. As a result of these various provisions, the natural working of monetary forces distributes the silver in the form of certificates where it does no harm, where in fact it answers almost as well as any other kind of money would.

Principle 13. *If for any cause distrust in the monetary system comes to be felt, inferior legal tender moneys tend to gravitate to the Treasury holdings and superior moneys to the banking reserves.*

Under the conditions named, the banks have at once the motive and the power to bring about this result. The motive is furnished by the fact that, if the system should be even temporarily overthrown, those institutions holding the best money would suffer least. The power comes from the fact that the banks have greater liberty of action in selecting the kind of money they will pay to the Treasury than has the Treasury in selecting what it will pay them.

The explanation of this fact is as follows. In paying import duties and other dues to the Treasury, the banks are of course free to employ any legal tenders, and naturally enough turn in the inferior ones. On the other hand, when the Treasury comes to make payments to the banks, the case is quite different. For at least three classes of payments, viz; redemption of notes, interest on the public debt, and the principal of more than half the bonded debt, only gold

is legal tender. But even in cases where this is not true the Treasury cannot properly *force* any particular legal tender on any of its creditors, since such action would be almost certain to discredit that legal tender and so cause a fall in its value below gold,—a result which the law expressly commands the Secretary to avoid. Thus the Treasury must to a large extent take what the banks have a mind to bring, while it must give what the banks have a mind to demand. The result laid down in the principle is inevitable. The arising of any serious distrust of the money system is likely to be followed by a redistribution of the monetary stock in the banking reserves and the Treasury reserves whereby the superior moneys settle in the former, the inferior in the latter.

Corollary. *Any considerable excess in the volume of any inferior legal tender is likely to show itself in the preponderance of such legal tender in the Treasury receipts and holdings.*

This corollary was illustrated several times in the monetary history of the United States between 1880 and 1900. The argument for it is plain. If such a legal tender is in excess of those uses to which it can advantageously be put, it will soon force itself into the holdings of the central banks; its presence in the reserves will then arouse distrust among bankers; when, finally, Principle 13 will be brought into operation.

PROBLEMS.

1. "Under a good redemption system bank notes are easily gotten out of circulation by return to the issuer. They, therefore, have very little tenacity in circulation." Can you give a reason to the contrary?
2. Our country always contains a great many people who show much anxiety lest we should have too little circulating medium. The same people often advocate strong-

ly the policy of putting a high tax on the issue of bank notes. Are the two positions consistent?

3. On page 82 it is said that governments and banks have much opportunity to get money into circulation than manufacturers or farmers. Explain this more fully.

4. In the earlier stages of commercial development, it seemed necessary that the medium of exchange should be something having just as much use-value as exchange value. Why was this so?

5. It is often said that our bank notes are *too good* to have good "homing powers," that is, tendency to return to the issuing bank. Explain why goodness should have this effect.

6. In 1871-1873 the German Empire changed from a silver to a gold standard, and at once began withdrawing and selling its silver thalers, which contained 257.2 grains of pure silver and were legally rated as the equivalent of 3 marks or 16.59+ grains of pure gold. In 1879 they stopped selling the thalers and have never since been willing to resume on account of the great loss involved. How would there be any loss?

7. Even one who looks on money as really nothing more than a due bill on the community for goods equal in value of the money, might nevertheless think it better that money should have metallic value equal to its face value. Why?

8. In the German banking law it is provided that no bank can pay out the notes of other banks, except in the home town of the issuing bank. This, however, does not apply to notes issued by the Imperial Bank, but only to those of the seven local banks. Can you explain the object of this provision?

9. In many of the plans for reforming our bank notes proposed during recent years, occurs a provision for the establishment of several new redemption agencies in various parts of the country. Would this tend to increase or di-

minish the hold of the notes on the circulation? Explain.

10. Chief Justice Chase, who was largely responsible for the issue of greenbacks, later said, "The legal-tender quality (in greenbacks) was valuable only for purposes of dishonesty." Is that opinion sound?

11. Why should Canadian coin circulate in the United States near the border but not elsewhere?

12. Not many years ago the circulating medium in a small lumber town in Northern Wisconsin consisted chiefly of the due bills of the general store kept by the principal lumber company. Is this fact consistent with Principle 2?

13. Look up the history of our trade dollar authorized in 1873 and find in it some confirmation of Principle 2. (White's Money and Banking, p. 37.)

14. From Principle 1 we learn that money will not commonly circulate outside the territory where it is legally authorized. How is it, then, that Liverpool or London banks will readily accept at par national bank notes of the United States?

15. It has sometimes been argued that we ought to leave the manufacture of money to private enterprise just as we do that of shoes, or rakes, or boxes. Show that Principle 5 furnishes an argument against such a policy.

16. During the years from 1852 to 1864 the French circulation absorbed about \$680,000,000 of gold, and ejected about \$345,000,000 of silver. Explain these facts.

17. Our silver dollar contains 412.5 grains of metal nine-tenths fine. A gold eagle contains 258 grains of metal nine-tenths fine. Compute the mint ratio between the two metals.

18. Our fractional silver contains 384 grains to the dollar (nine-tenths fine). Compute the mint ratio between gold and silver as used in fractional coins.

19. Our Philippine peso contains 412 grains of standard silver and is rated as equivalent to one-half of a dollar,

i. e., 12.9 grains of gold. What is the mint ratio between silver and gold in the Philippines?

20. What market ratio between gold and silver would tend to drive silver pesos out of circulation in the Philippines?

21. If the government is anxious to raise funds by issuing legal tender notes and yet wishes to regulate these in such a way that they will be kept out of circulation, should it make these notes interest-bearing or not? Explain.

22. In December, 1861, specie payment on circulating notes, both bank notes and treasury notes, was suspended; and gold promptly went to a premium and disappeared from circulation. Fractional silver, however, remained current several months longer. Explain the action of the fractional silver?

23. About 1849 there took place a considerable fall in the silver price of gold, so that the silver in an American silver dollar was worth from 2 to 3 cents more than the gold in a gold dollar. In consequence, gold became the standard and silver coins generally went out of circulation, none but the much-worn ones remaining. Explain (a) why most went and (b) why some stayed.

24. Give some reasons why it is true that people of moderate means and the poorer classes are in some respects more interested than the very wealthy in keeping only good moneys in circulation.

25. In 1806 President Jefferson stopped the coinage of silver dollars by the United States mint. Look up the explanation in White's Money and Banking and show how it illustrates Principle 7.

26. In 1825 the banks of Boston established a system whereby the redemption at par in Boston of country bank notes was provided for—the expense being borne indirectly by the issuing bank. What do you suppose they hoped to accomplish by this arrangement? Why was success likely?

27. Some time about 1855 a French newspaper published as a notable item the statement that at certain railway stations ticket agents every now and then received in payment silver five-franc pieces, although the market ratio between gold and silver was about 15.32 to 1 while the mint ratio was 15.5 to 1. Why was there anything notable about the item?

28. In 1890 the United States provided for the issue every month of legal tender treasury notes to be used in the purchase of silver bullion. Under the operation of this law over \$150,000,000 in these notes were added to the circulation during the next three years. The very great net export of gold characterizing the four years beginning with 1893 is commonly thought to be in some measure a *direct* result of this issue of notes; that is, it is held that the notes drove out the gold. Show that this is probably true in spite of the fact that there was no difference in the exchange values of the notes and gold.

29. It is sometimes said that "bad money drives out good" only when there is an excessive stock of money in general. Show that this is not true, that even under normal conditions inferior coins stay and superior coins go.

30. In most European countries bank notes as low as \$5 can not be issued. In England the lowest are £5, and in Germany 100 marks. Can you imagine a reason for this based on any principle contained in this chapter?

31. In 1717 the English government issued a proclamation declaring gold and silver current at a ratio which made 21 silver shillings equivalent to 1 gold guinea. At the same time the market ratio between the metals was such that 20½ silver shillings were equivalent to 1 gold guinea. Under these circumstances gold established itself as the standard; what then must have happened to silver coin? Explain.

32. When in 1695 the English exchequer made some experiments to test the quality of the circulation, they found

that practically all the coins then current were minted prior to 1660. Why were none of the beautiful new gold coins issued under Charles II to be found?

33. Explain how provision for the redemption at face value of worn coins tends to neutralize the working of the law contained in the corollary of Principle 8.

34. Why is it important that there should be a large element of gold in the receipts of the Federal treasury?

35. Show that under existing conditions Principle 12 helps to keep silver out of the Federal treasury.

36. Explain how the legislation of 1886 referred to on page 104, contributed to the maintaining of the gold standard. (Compare Principles 12 and 13 with what is said with respect to the *ultimate* reserve in Chapter 2.)

37. What is at present the practice of Great Britain with respect to the redemption of worn coins? the practice of Japan? the practice of the United States? Authorities: London Economist, Count Masayoshi's Report on the Adoption of the Gold Standard in Japan, and Dunbar's Coinage and Currency Laws of the United States.

CHAPTER IV.

THE GEOGRAPHICAL MOVEMENT AND DISTRIBUTION OF MONEY.

The monetary stock of any country, as also of the world, is in a state of constant movement. Scarcely a day passes without the shifting of considerable sums in the shape of actual cash between different districts of the same country; and even the movements between nations, though by no means so frequent, are in the aggregate very extensive. For various reasons these movements of money are of much interest and significance, both to the specialist and to the general public. First, every money movement considered by itself tends to bring about a change in the distribution of the money stock among different districts or countries; and, if for any reason the movement in one direction is long enough continued, this redistribution may work considerable inconvenience, causing an excessive supply at one point and a deficient one at other points. As a matter of fact there is much less danger of such a result than is commonly supposed. Most monetary movements will prove quite harmless. Still there are some which need to be, and can be, checked. Further, a knowledge of even the harmless ones is desirable to guard against needless anxiety and foolish efforts to check those movements because they are supposed to be pernicious.

In the second place, there are certain monetary movements which indicate diseased conditions in the monetary system. Plainly a knowledge of these is desirable in order that steps may be taken to remedy the evils which are disclosed by the abnormal movements. Again, there are certain periodic movements which regularly cause temporary excess at one point and temporary deficiency at another, and

which can not under existing conditions be eliminated. A knowledge of them, however, enables us to anticipate the trouble and in considerable measure to prepare for it. For all these reasons it is desirable that one should become acquainted with the natural laws which regulate the movements of money between different countries or districts and the territorial distribution of the stock of money which results from these movements.

I. THE DIFFERENT KINDS OF MONEY MOVEMENTS.

Our first task must be to inform ourselves with respect to the more superficial and general facts of the matter. First, we need to distinguish between *gross* and *net* money movements. If, during the course of the summer, tourists are taking out, say, 70 millions of dollars, while immigrants and foreign travellers are bringing in eighty millions, the gross movement inward is of course 80 millions, but the net movement is only 10 millions. It is manifest that only net movements have any effect on the distribution of the world's stock of money; but, in order to get a knowledge of net movements, we need to inform ourselves in some measure with respect to gross movements.

Again, money movements are to be distinguished as *private* and *banking* movements. The former cover the carrying or sending of money by individuals or outside corporations or the agents of these. The latter cover the sending of money by banks, express companies, or other institutions which make a business of effecting remittances for the public. Private movements are in our day relatively unimportant; since almost every one depends on some sort of money order in making remittances. Further our direct knowledge of private money movements is necessarily very small. Accordingly, although such movements do constantly take place and in some cases probably play a considerable rôle in determining the distribution of money, we

give them little attention in a scientific study of the matter. It is *banking movements* to which our attention must principally be devoted.

Of banking movements it is first to be remarked that they naturally subdivide into ordinary or *exchange* movements and *special* movements. The former are those movements which grow out of the business of effecting payments in distant places,—a business commonly carried on by banks, express companies, and the post office. These exchange movements are much the most important with which we shall have to deal; and the theory of them is a study of some difficulty. It will, therefore, be necessary at this point to go into fairly full explanations.

It is doubtless already well known to us that under modern conditions there is very little direct transfer of money between buyers and sellers or debtors and creditors, when the two are located in different places. When we sell goods to the people of another country, we do not commonly collect the pay directly from our customer. Instead, we sell our claim on him to a banker or dealer in exchange, who thus becomes a creditor of the foreign customer for a claim which he will later set out to collect. Or the buyer sends us an order by a bank in his country telling one of our banks to pay us the money, which, being done, makes our bank the creditor of his bank for the amount of the bill. In either case, one of our bankers or exchange dealers comes into possession of the claim on the other country which grew out of the sale. So, when we buy from the outsider, we do not pay him directly; we rather leave him to dispose of his claim on us to *his* banker, or we arrange with our banker to order the foreigner's banker to pay the bill for us; and, in either case, one of the bankers of the other country comes into possession of the claim on our country created by the transaction. Accordingly, we may say in general that the money claims in favor of the people of any country growing out of the foreign trade of that

country get into the hands of the bankers or exchange dealers of that country.

But, again, what is true of the *claims* of a country growing out of its foreign trade, is equally true of the *obligations* growing out of that trade. This is evident enough when the buyer in New York has paid the seller in London by sending him a draft drawn by his New York banker on a London banker. For, just as soon as the London banker pays the draft, he makes the New York banker his debtor for the amount of that draft. But, even when the London seller collects his pay by drawing a bill on the New York buyer and selling it to his banker, things will inevitably be arranged so as to make some New York *banker*, rather than the New York *buyer*, the debtor to the London banker. For the London banker, having come into possession of the bill, will not try to collect it directly from the drawee in New York, but will rather sell it to some New York banker, by whom the collecting will be done. In short, the reciprocal debits and credits between the merchants of different countries growing out of their reciprocal trade are almost entirely transmuted into the form of debits and credits *between the bankers or exchange dealers* of those countries.

We have just seen that in international trade the debits and credits growing out of that trade become concentrated in the hands of the bankers of the different countries. It now follows inevitably that the bankers of each country, taken as a whole, instead of sending or collecting money for each debit or credit taken by itself, will as far as possible use all the credits of the country to cancel its debits. This would be true of any *one* banker, as a matter of course. He would surely use whatever claims he had against his correspondent in a foreign country to offset the claims which his correspondent could bring against him. But the statement is almost equally true for the bankers or exchange dealers of a country, taken as a whole. Banker A. of New York, in settling with his London correspondent, will not

be willing to send money to London, just because the credits on that city *which he happens to have on hand* fail to offset his debits. Wishing to avoid the trouble and expense to be incurred if he ships gold, he will, before doing so, try his best to buy London credits on the open market. In order to bring out all that could be made available, he will even raise the price which he pays for such credits as high as it can be without making this method of settlement more costly than sending gold would be. Consequently, if, *anywhere in New York*, there are enough credits on London to offset debits to that city they will be used for that purpose.

We have seen that the reciprocal debits and credits between countries growing out of reciprocal trade get into the hands of the bankers of each country, and that credits are just as far as possible used to offset debits. The student will readily believe what must now be added, that at times a country's credits on some other country will not offset its debits to that country; and that, therefore, money itself must be sent to make good the balance. It is this case which gives what we designate as ordinary or "exchange" movements. They constitute by far the majority of all money movements. They are practically the only ones which the business world tries to keep track of. They are almost the only ones which science attempts to study.

In contrast with exchange money movements, "special" movements are those which are brought about with a conscious purpose to get the money to a place where it is wanted. They are not made to settle an adverse balance created in the course of trade. In fact "special" movements may take place simultaneously with "exchange" movements running in the opposite direction. Thus, when in 1892 Austria was preparing to go to a gold standard and so was accumulating reserves of gold, the central bank is said to have made a contract with a Paris syndicate by which the latter was to furnish the bank with a large amount of gold

just as another syndicate might supply them with coal or lumber. In carrying out the contract, the French syndicate paid a special price for the gold in New York, London, and other cities, with the result that gold more than once left New York for Paris when other shipments were going from Europe to New York in the regular course of business.* It is not, however, necessary that "special" movements should run counter to ordinary—"exchange"—movements. Almost every summer in the United States the two classes coincide. That is, the interior banks, in order to provide for local needs, inaugurate a "special" movement toward the West and South by calling home the money which they have lent to New York during the winter; while, very soon after, an "exchange" movement in the same direction arises from the fact that the East, in buying the cotton, wheat, meat, and so on, of the South and West, gets heavily in debt to those sections.

Other cases of "special" money movements arise in connection with the effort to redistribute *subordinate* moneys. Thus, at certain seasons of the year the United States treasury is constantly being called on to furnish silver dollars, small bills and fractional silver to the different parts of the country; for such moneys, when out of use, show a tendency to gravitate back to the centers of trade and finally to the Treasury, and, consequently, have to be pumped out when, at some later time, they are again needed in the country.†

Of these two classes of money movements which we have just been considering, exchange movements and special movements, the former gives us two subdivisions; (1) those which grow out of *trade* transactions, the buying

* In international dealings "special" movements can usually be distinguished from "exchange" movements, by the fact that they do not seem warranted by the rate of exchange.

† Dr. Ono, who is connected with the Bank of Japan, tells me the Imperial Bank of Japan has to play a similar rôle in Japan.

and selling of goods, and (2) those which grow out of *investment* transactions, the shifting of capital from one district or country to another. "Trade" movements are illustrated by the second movement from the East toward the South and West alluded to in the next to the last paragraph. Investment movements are less easy to distinguish in any actual case. But there have occurred many movements which certainly seem to belong in this class. Thus in 1870, shortly after the outbreak of the Franco-German war, when people in France had set about shifting their capital to London or other large cities, there started up a large outward movement of gold, which the government considered it necessary to stop by requiring the Bank of France to suspend specie payments. There seems little doubt that this gold export was only a manifestation of the capital export. Again, there can be no serious doubt that the very notable withdrawal of European capital from the United States which took place during the four or five years following 1890, played a very considerable part in explaining the large net export of gold which characterized those years.

The different classes of money movements which have just been described need for some purposes to be grouped in other ways. One of these gives us the distinction of *natural*, spontaneous, movements and *artificial* movements. Private movements and exchange movements go together as natural movements. They arise spontaneously in the carrying out of trade and investment transactions. "Special" movements, on the other hand, are artificial movements, being undertaken by bankers to accomplish special objects connected with the monetary system. It is a matter of course that a study of the principles regulating money movements will be largely confined to natural or automatic movements; since artificial movements, just because they are artificial, will not submit themselves to natural laws in just the same sense as do natural movements.

Another method of grouping money movements which we shall find it convenient to have in mind as we proceed with this topic is one which distinguishes such movements as either (1) *industrial* or (2) *systemic*. By "industrial" movements I mean those which are incidental to the normal operations of trade and investment. By "systemic" movements I mean those which are consciously or unconsciously directed toward the regulation of the monetary system,—adjusting the quantity to the need for it. Thus, when in the fall of the year gold flows from Europe toward America to make good the balance against Europe due to her buying of our agricultural products, we have an industrial movement. On the other hand, when gold flows from Australia toward Europe because gold is produced in Australia and so the Australian stock is relatively excessive, we have a systemic movement.

Systemic movements may be subdivided into *physiological* and *pathological*. The movement from Australia just cited is physiological; i. e. it is a perfectly natural and necessary result brought about by normal conditions. Australia produces relatively more gold than it needs; and therefore has a surplus which can advantageously be sold abroad and the proceeds used to buy other products. But, since gold is in Australia the standard metal freely coined by the government, the natural and easy way to market it is to take it to the mint, and make it a part of the monetary stock of the country. But such a continuous addition to the monetary stock means that that stock presently proves excessive and needs to be depleted. Consequently, the outflow which is spontaneously set up by this condition of things is a perfectly natural process, correcting a perfectly natural and inevitable excess, and is, therefore, a physiological movement.

Pathological movements are those which grow out of abnormal or diseased conditions. Thus, the flow of gold from the United States after the suspension of specie payments was pathological; for it resulted from a malady in

the system. A system the paper money of which is not being redeemed on demand is diseased; and various evil consequences are likely to ensue, among which is the loss of the stock of standard money.

II. PRINCIPLES.

We have now before us the most important kinds of money movements. Let us proceed to set forth the chief principles regulating those movements.

Principle 1. *The dealings of a country with other countries in respect to goods and capital do not commonly lead to net movements of money to or from the first country, until the claims for and against that country growing out of said dealings have failed, for a measurable period, to balance each other.*

A very notable popular fallacy—one of the most widespread of those which have to do with economic matters—concerns the effect on a country's monetary stock of its dealings with other countries. It is constantly assumed that buying any goods or services from another country naturally means losing some of our stock of money to that country. If we give up producing some particular commodity for the making of which we show comparatively little fitness, and go to buying that commodity from our neighbors, people at once bewail the fact as certain to draw away some of our money. They even go so far as to fancy that, if we allow perfect freedom of trade, *all* our money will be drained away. One of the chief reasons for setting forth the principle now before us is that it shows such anxieties to be, in part at least, needless. These anxieties will be still more thoroughly disposed of under Principle 4.

The dealings of one country with another, or, more exactly, of the people of one country with those of another, do not in themselves lead to net money movements. They do so only under the condition named in the principle. In

the first place, if international dealings were commonly effected *with money directly*, there would be few or no net movements, assuming that we have in mind intervals of at least a few months in length. The reason is plain. No sensible person wants money for money's sake. Our neighbor is anxious to get our money by selling us his products, not in order that he may keep that money, but in order that he may use it to buy our products. This is plain within the limits of our own town; and in no essential respects does the trade within the town differ from the trade between it and other towns, or from the trade between the country as a whole and other countries. The merchant in Detroit wants the money which he gets from Ann Arbor people for no other purposes than the money which he gets from Detroit people; that is, to use in buying flour, celery, raspberries, and other things, many of which are produced in various places outside of Detroit, Ann Arbor among them. That is, we can be sure that, if trade between Ann Arbor and Detroit were carried on with money, that money which we sent to Detroit to buy goods, or an equivalent amount, would come back to buy Ann Arbor goods. In short, under normal conditions when trade is carried on with money, that money is like the shuttle in the loom ever flying forth and back, out and in, never tending to stay either in our town or the other town. Doubtless, even in normal times there will be temporary accumulations at either end. But we can be well assured that these will be only temporary, quickly correcting themselves; for in interlocal trade, as in home trade, money is wanted as pay for our goods only that it may be used in buying other peoples' goods.

But, in the second place, under the régime actually prevailing in interlocal trade, it is a matter of course that movements of money do not take place save under the condition named in the principle. Indeed, it has already been fairly established in our preliminary analysis. Under mod-

ern conditions, the reciprocal claims and obligations between the dealers of different countries which grow out of their trade dealings are transformed into claims and obligations between the bankers or exchange dealers of those countries; and, between these bankers, money itself actually goes only when their reciprocal claims fail to balance. We only need to add that such failure to balance must be of appreciable duration, a few weeks any how; since the first resort of an exchange dealer with an adverse balance will commonly be to borrow from his correspondent,—money being sent only when it becomes evident that the adverse balance is not going to be turned into a favorable one within a very short time.

We have seen that the principle before us is true as applied to trade relations. We must now show that it is also true as applied to *investment* transactions—the lending of capital by the people of one place to the people of another place. In the first place, transfers of capital between communities, like trade payments between communities, *primarily take the form of debts between the bankers of the different communities.* A person in England who lends capital to an American railroad, by purchasing its bonds, does not, in consummating the operation, send over money to that railroad. The bonds are paid for, just as cotton or wheat would be paid for; i. e. either (1) by the New York broker's drawing a bill on London for their value or (2) by the London broker's sending a bill (draft) drawn by some London exchange dealer on his New York correspondent. That is, payment for bonds—the lending of capital by English people to American railroads—in the first instance, takes the form, not of money sent, but of a debt created *against* some London house and *in favor* of some New York house.

We have learned, in the preceding paragraph, that, in its first stage anyhow, a movement of capital from one country to another means only a movement of credit. But,

while such a shifting of capital does not mean a movement of money at the outset, would it not necessarily mean this *in the end*? For transactions in capital, unlike trade transactions, are almost certainly *one-sided*. Europe lends to America; but, generally speaking, America does not lend to Europe. The Eastern states lend to the Western, but the Western do not lend to the Eastern. In consequence, European exchange houses would never have any claims on American houses to balance those claims held by Americans against them which had grown out of the buying of American bonds—the lending of capital to American corporations. It would seem, therefore, that money would have to go.

The above reasoning is plausible, but it overlooks one very important element. It is true that the debts of European exchange houses to American houses growing out of the shifting of capital to America, can not be matched by debts running in the opposite direction *which have the same origin*. But another alternative is possible. America by hypothesis has an abundance of claims on Europe due to the fact that Europe has purchased American bonds—lent America capital; and, of course, America will insist on enforcing these claims, using them to get something which she wants. Further, she *may* use them to get money. But *will* she? Is money the thing she wants? Probably not. The *real* wants of borrowing railroads are, not money, but rails, cars, locomotives, etc. If they do not wish to buy these things abroad, they at least wish to have somebody use, in producing them here, labor and capital which must be released from the production of something else, by buying that something else abroad. Accordingly, the possessions of an excess of claims on Europe is likely to increase America's purchases in Europe or in some place where claims on Europe are wanted. That is, the debt of European exchange houses to American exchange houses arising out of the fact that Europe is lending us capital, is like-

ly to be matched with a debt of American houses to European houses arising out of the fact that Americans *have bought from Europe more goods than usual*.^{*} In such case, of course, these debts will be cancelled and no money will go either way. We are justified, then, in saying that investment transactions between countries, like trade transactions between countries, do not of necessity involve corresponding movements of money.

We have seen that neither trade nor investment transactions between countries necessarily involve money movements, that they do so only when there is a fairly prolonged balance of indebtedness one way. Our next task is to learn under what circumstances such a condition of things is likely to be realized. If for the present we confine our attention to trade relations, the answer is easy and will furnish our second principle.

Principle 2. Any fact which tends to cause the total volume of goods or services bought by any community from other communities to remain for some time in excess of its sales to such other communities, will tend to bring about a net movement of money from the community whose purchases are in excess: on the other hand, any fact which tends to make the sales of a community in excess of its purchases, tends to bring about a net movement of money into such a community.

The argument is too simple to need any considerable elaboration. The circumstances supposed will keep the exchange dealers of the community which buys more than it sells, for a considerable period the debtors of the exchange dealers of other communities. They will, therefore, find it necessary to send money to pay the balance; since they can not profitably borrow from their correspondents for an

^{*} The argument can be reinforced in various ways. See Problems 20 and 36, at the end of the chapter.

indefinite period. But such movements of money between the exchange dealers of different countries are obviously *net* movements, since there is no deduction to be made from them of movements having a similar origin and running in the opposite direction. Hence the circumstances supposed tend to cause net movements of money.

It is hardly necessary to add that the conditions supposed would tend to cause a net movement of money in so far as trade is carried on with money itself, rather than with credit. If our trade is one-sided, if we are buying in excess of sales or selling in excess of purchases, and doing this with money, so that there are both outgoing and incoming currents, the former will preponderate when our purchases are in excess, the latter, when our sales are in excess.

This principle is illustrated almost every year in the trade between America and Europe. The exports of America, being largely agricultural, are naturally "bunched" at certain seasons; while its imports from Europe, being more generally manufactured products, are distributed more uniformly through the year. Consequently, temporary balances against Europe are almost certain to appear in the fall season, and to lead to movements of money toward America.

Another class of cases illustrating the principle are less regular in character. They arise when trade is much one-sided because of quite exceptional circumstances, which compel one country greatly to increase for a time its purchases from foreign countries, though during the same period it can not greatly increase its sales to those countries. In such case, a large balance of indebtedness will appear against its bankers; and money in large amounts will go to make good these balances. Thus, in 1879 the wheat crop of France failed, compelling her people to make more than commonly extensive purchases in America. As exports from France did not increase so rapidly, a large amount

of gold had to go to settle the balance against that country. Similarly, when Japan was engaged in the recent war with Russia, it was obliged to increase its purchases abroad more rapidly than its exports could be increased. It, therefore, had to ship gold, or borrow it in Europe and America, to make good the balance against it.

Corollary 1. *There tends to be a movement of money into any district or country of exceptionally low prices and vice versa.*

This obviously follows, because the low prices cause a temporary excess of *purchases from* the country or district in question over *sales to* that district or country.

Corollary 2. *There tends to be a net movement of money into an agricultural district or country at the time of the harvest.*

The reason has already been sufficiently developed.

We have disposed of the most common class of those causes which tend to bring about money movements; viz., those conditions which tend to make the trade between a country and its neighbors for a considerable time one-sided. The second set of general causes which have to be commented on are connected with *investment* transactions.

As we learned in Principle 1, investment transactions do not necessarily cause movements of money,—the transfer of capital from Europe to America does not necessarily involve the transfer of money from Europe to America. In fact, it seems probable that the majority of the shiftings of capital fail to cause a shifting of money. But this is because the process is so slow that there is time to effect an offsetting of the exchange balance created by the movement of capital against the lending country, through the natural readjustments of trade,—*the expansion of imports into the borrowing country.*

But it is always possible that the movement of capital from country to country will be too large and too rapid to

permit the restoration of a balance of exchange by trade readjustment, *in time* to avoid the sending of money. For this, there are at least two reasons. First, it takes time to readjust trade so as to utilize in buying foreign goods the increase in the borrowing country's stock of credit on foreign countries, and so takes time to develop exchange claims on the borrowing country. The people who are doing the borrowing from Europe are quite likely *not* the persons who would naturally increase their purchases from Europe. The changed conditions of trade must, therefore, become known to the importers of foreign goods; they must become convinced that they can sell more goods at a good profit; they must arrange for the ordering of the goods; and so on;—all of which takes time. But, secondly, international exchange houses are not accustomed to give each other long credits. They deal in vast sums on a very small margin of profit. Rather than lose the use of their capital, if only for a few weeks, they will order the gold shipped. Accordingly, a movement of capital, which is at once rapid and of large volume, is quite likely to cause at least a temporary movement of money in the same direction; even though that movement will a few months later be offset by a movement in the opposite direction, due to excessive imports by the country which only a little while before was receiving the money. This point formally stated gives us Principle 3.

Principle 3. *Any cause which tends to bring about a rapid and large net movement of capital from one country or district to another, tends to effect a net movement of money in the same direction.*

Corollary 1. *There tends to be a net movement of money to any country or district where the rate of discount is for the time being exceptionally high.*

Thus, if the rate of discount in London is raised till it is two or three per cent higher than in Paris or Berlin, bankers having connections in London will hasten to avail themselves of this opportunity to make exceptional profit

by transferring funds to London. Naturally, they will just as far as possible use exchange or credit for this purpose. But it is likely that such action will soon exhaust the available supply of credit, in which event, if the movement keeps on, money must be sent.

Corollary 2. *There tends to be a net movement of money to any country or district where the opportunities for the profitable investment of capital are for the time being exceptionally numerous as compared with those of the country or district from which the movement takes place.*

The reasoning here is not materially different from that used in the preceding case. While the rate of discount may not be high in the place to which money goes, may be even lower than the rate in the place from which money is sent, the opportunities in the former are much more numerous. Capital, therefore, tends to move in order to improve these opportunities. But the shifting of capital almost certainly leads to the shifting of money.

A notable illustration of this principle is found in the relations of the western and southern portions of the United States, on the one hand, and the chief centers of trade and banking, on the other. After the crops of the summer and fall have been marketed, the outlying communities have too little employment for the considerable stock of money which has been needed to move the crops. The home rate on such loans as bankers actually make, may be six or eight per cent; but a large share of their funds can not be lent at all. They, therefore, ship this idle money to their correspondents in the great centers, where they can get at least one and a half, or two, per cent for its use.

Corollary 3. *There tends to be a net movement of money from any country or district where the opportunities for profitable investment have experienced a marked decline.*

The reason is evident.

Corollary 4. *Money is likely to be exported from any country on the eve of a grave national crisis.*

The approach of war, or the first serious reverse after war has come, furnishes the most typical case. The reason is evident. The approach of a great national crisis causes uncertainty and anxiety with respect to the maintenance of credit and the continuance of profitable business operations. Prudent capitalists hasten to guard themselves against possible loss by transferring their capital to countries free from the impending danger. The movement is soon general, and, therefore, so large and rapid that money must almost inevitably be sent.

Corollary 5. *Any considerable uncertainty with respect to the maintenance of the monetary standard is likely to lead to an export of money.*

Thus, if it looks very probable that a nation will resort to irredeemable paper, or go from a gold standard to a much lower silver standard, money is likely to be exported in large amounts. The reason is plain. If such a change should be made, creditors generally will find their claims on debtors cut down by an amount corresponding to the change in the value of the standard.* Naturally enough, creditors will seek to guard themselves against such a possibility by transferring their capital to other lands. Their haste to do this will make the movement of capital very large and rapid; and will almost certainly necessitate the sending of money.

In introducing Principle 1 of this chapter, I called attention to some popular fallacies with respect to the effect on a country's monetary stock of its dealings with other countries. In that connection, the point particularly combatted was that every purchase abroad means the loss of some money. I wish, now, to go into this matter a little more deeply, and show that, generally speaking, all anxieties of this sort are entirely needless, that, save in special

* Save in so far as any particular creditor has a statement in his bond stipulating payment according to the old standard.

cases to be explained later, money drains can safely be left to correction by natural causes. The principle is as follows.

Principle 4. *Every net movement of money tends to be stopped, or even reversed, by the automatic reversal of that condition which is necessary to bring it about, or by the action of conditions which its own continuance establishes.*

First, the movement may be stopped by the automatic reversal of that condition which is necessary to bring it about. To establish this contention, it will be necessary to give a little fuller explanation of "exchange" than we have yet attempted. Let me once more remind the student, of the now familiar fact that settlement between the merchants of different countries is made, not directly, but through the assistance of exchange dealers. That is, the claims of each community on other communities growing out of their mutual transactions, get into the hands of their exchange dealers, who settle with the exchange dealers of the other communities. Now, this inevitably means that there is developed a regular traffic in such claims, i. e. they are bought and sold like flour or iron. Every day the prices of such claims per unit of value are quoted in every important newspaper. Like the prices of other things, the price of "exchange,"—which is the name given to a claim or right to receive money in another country—rises and falls, according as the demand rises or falls, or as the supply falls or rises. Thus exchange on London ranges from about \$4.835 per English sovereign to about \$4.895, its natural par being \$4.866+. If we are selling Europe much more than we are buying from her, so that claims on Europe are very abundant in New York, London exchange will drop to, say, \$4.84 or \$4.835. If, on the other hand, we are buying much more than we are selling, so that the demand for claims on Europe is very much greater than the supply, the price will go up to, say, \$4.89 or \$4.895.

But not only does the price of "exchange" rise and fall, these risings and fallings have a vital relation to the

movements of gold. Looking at the most proximate determination of the matter, the going or coming of gold is entirely a matter of the price, or rate of exchange. If the rate is as high as \$4.895, this means that there is on the market practically no exchange having its origin in sales by us to the rest of the world; so that, if any is wanted, it must be created by sending gold. This rate further means that the exchange dealer can *afford* to send gold in order to create exchange which he can sell at the prevailing price; for, at that price, he will get his money back with a fair profit.* Below that point, however, e. g. at \$4.885, he could not afford to send gold for this purpose; since the cost added to the natural price of the bullion, \$4.866, would exceed the price obtained for the exchange sold against his shipment. Accordingly, if anything happens, when exchange is at \$4.895, to *make the supply abundant and bring down the price*, the exporting of gold for exchange purposes will at once become unprofitable and, hence, will at once cease.

But let us take another step. Not only does the exporting of gold depend on the rate of exchange, this is also true of the *exporting of goods*. The rate which makes it profitable to export gold also makes it more than usually easy to export goods, to induce foreigners to buy goods. Thus, suppose you are a wheat exporter and hope to make a 10,000 bushels sale to a certain Liverpool miller. If you do so, you will have ready for sale to your banker a draft on your customer for, say, £1650. Now, if with exchange at par the proceeds of this draft, \$8028.90, would give a fair profit on the deal, it is plain that with exchange at \$4.895 they would give you an additional profit of \$47.85. Plainly, then you could afford to shade the price a little in order to make a sale more likely, i. e. you could offer a

* Hence this rate, \$4.895, is called the gold-export point. The exact figure varies from time to time.

price of 80 cents rather than one of $80\frac{1}{4}$ cents. And I hardly need say that, in large transactions of this sort, a difference of $\frac{1}{4}$ of a cent, or even $\frac{1}{8}$ of a cent, often determines for, or against, a sale. It follows, therefore, that a high rate of exchange acts as a stimulus to increase exports.

But what, now, will be the consequence of the increase in exports due to the high price of exchange? Manifestly, those exports will put some foreigners in debt to us, will, therefore, increase the supply of claims on other countries, i. e. of exchange. But, in increasing the supply of exchange, they will tend to lower the rate of exchange till it is less than \$4.895. But this is the rate necessary if gold is still to be exported. Hence the increase in exports due to the high rate of exchange will tend to stop the export of gold.

The chain of reasoning is now complete. The gold can not go until exchange reaches a very high rate. But a high rate of exchange stimulates exports; the increase in exports presses down the rate of exchange; and the lowered rate of exchange stops the outflow of gold. That is, as affirmed by the principle before us, the outflow of money tends to be stopped by the automatic reversal of that condition which alone makes it possible.

The above argument was directed to establishing one part of the principle before us. Let us now show that the other part is true. A persistent net movement of money tends to be stopped or even reversed "by the action of *conditions which its own continuance establishes.*" In other words, a money drain is self-corrective.

The first way in which a money drain puts a check on itself is to cause an inflow of floating capital,—i. e. a kind of capital controlled by the quasi-international banking or exchange houses of such centers as London, Paris and New York which they constantly shift from country to country, as greater or less profit is anticipated. The process by which a money drain tends to cause an inflow of this capi-

tal and so to stop itself is the following. First a money drain from any country,—which will of course be a drain from its chief commercial and banking center,—tends to make the stock of money in that center relatively small. This will affect especially the surplus reserve of the banks, since it is from this reserve that the money for export will be taken. But, secondly, this depletion of the surplus reserve will tend to raise temporarily the rate of discount* on short-time loans; since the rate on this sort of loan is almost entirely dependent on the size of the surplus reserve. Thirdly, the high rate of discount, thus established, will make the country a desirable market for lenders, and so will tend to draw in the floating capital of neighboring countries. But, finally, as such a movement must in the nature of the case be a rapid one, it will almost necessarily stop the gold drain, if it does not set up a counter movement.

This is the first way, then, in which the outflow of money tends to check itself. It makes money scarce, which makes discount high, which causes the inflow of capital (or stops its outflow), which in the end stops or checks the outflow of money. In ordinary cases, this process is adequate to stop an excessive drain. But, if it does not prove to be so, a new and slightly different series of reactions follow and usually effect the desired result.

Under modern conditions, there are many securities, stocks and bonds, having an international character, i. e. of such a standing that investors in different countries make a practice of buying them whenever the conditions are favorable. Now, the prices of such securities are soon affected by the causes which, as we saw above, led to the inflow of floating capital and, so, to the inflow of money. That is, when the bank reserves of New York become scanty and the rate of discount rises, if this be long enough continued, it quite prob-

* That is, interest collected in advance.

ably leads to a fall in the price of securities. For a large part of the buying and owning of securities at any moment is based on borrowed capital; and, therefore, if money is hard to get, the inclination of people to buy these securities, or even to hold them, is diminished. In consequence, the demand falls off, perhaps the supply increases, and inevitably their prices will fall. But, if the prices of securities fall, foreigners will be encouraged to buy them. In turn, this buying by foreigners will give New York a supply of exchange on Europe. As a result, the rate of exchange will fall below the gold point, thus making its export no longer profitable. Thereupon the drain will cease; and, if the buying of New York securities goes far enough, it will be replaced by an opposite movement.

Thus we have a complete chain of causes set in motion by the outflow of money itself which inevitably effects a stoppage of that outflow; *outflow of money* causes (1) *low bank reserve* which causes (2) *high rate of discount* which causes (3) *prices of securities to fall* which causes (4) *foreign buying* which causes (5) *abundant exchange* which causes (6) *a fall in the rate* which causes (7) *a stoppage of the outflow*.

There is yet a third chain of causation which comes into operation, probably a little later, than the others. The same high rate of discount which causes a fall in securities, if long enough continued, leads to a fall in the prices of the great export staples, such as cotton and wheat, which are speculated in like securities, and this fall in price leads to increased buying by foreigners, which makes foreign exchange abundant, which lowers the rate, which checks the outflow of money.

Finally, it is perfectly certain that, if the outflow could, and should, go on long enough to produce a scarcity of money in the country as a whole,—a general scarcity,—there would result *a general fall in prices* which would

stimulate foreign buying all along the line, until the direction of the money movement was completely reversed.

Corollary. *There is never any danger that an export of money will go on till a country is denuded of money.*

We have just seen how money movements tend to be stopped or even reversed automatically. There can be no doubt that this tendency would triumph over opposing tendencies, long before a country was denuded of money, in fact, long before its stock had been materially depleted. Thus, the banks of New York rarely have a surplus reserve of more than 25 or 30 millions, commonly less than half this. A very moderate export movement will soon reduce the surplus to zero, or even change it to a deficiency. With such a deficiency, money capital commands a famine price, and an outflow of money is simply impossible.

We have just seen how unfounded is the fear sometimes entertained that a country may be entirely denuded of money. We will now take a long step further, and say that, under normal conditions, there is no danger that a particular country or district will have less than its fair share of the world's stock, as determined by the relative needs of different countries or districts. This statement rests on the following principle.

Principle 5. *Generally speaking, the money stock of a country, or of a group of countries having the same standard, tends to distribute itself according to need.*

The argument for the principle, stated in general terms, is this. If the need of any particular community, as compared with other communities, is less completely satisfied, this fact alone will tend to bring about a process of redistribution, which continues till the several needs are satisfied in equal measure. The explanation of the process by which this is brought about has already been anticipated, in discussing the preceding principle. First, if the stock of money in one country, as compared with another, is small

relatively to the money work to be done, this fact will show itself in deficient bank reserves, which will cause the rate of discount to rise, which will tend to bring about an inflow of money. (Principle 3, Corollary 1.) Again, the high rate of discount, due to a relative scarcity of money, will cause the prices of securities and of the great staples to fall, which will tend to cause an inflow of money under the operation of Corollary 1, Principle 2.

The above explanation shows us how a *deficiency* in one country automatically corrects itself by causing an inflow from another country. The processes by which an *excess* in any country is corrected by an outflow to other countries is simply the reverse of those described. First, such an excess causes a low rate of discount, making investments unprofitable, which causes capital to be exported, which presently takes money out. Secondly, an excess of money makes prices high, which tends to cause an export of money under the working of Corollary 1, Principle 2.

Corollary 1. *There tends to be a persistent net movement of money or bullion from districts or countries producing standard money metal, toward those not producing it, but having the same standard.*

Here is the argument. Generally speaking, any country's output of standard-money metal is marketed at the mint and, so, is added to the monetary stock of the country. In consequence, that monetary stock will commonly be excessive, as compared with the stock of other countries. Consequently, from such a country, money will tend to flow more or less continuously into other countries.

This proposition needs emphasis chiefly because it shows the folly of undue anxiety respecting an average excess of gold exports in the case of a nation producing a large amount of gold. We should expect, as a matter of course, that the custom house reports of the United States or Australia would show them exporting more gold than they import; since gold is one of their important products,

which they naturally use to buy things which they can not produce so easily, just as they use cotton or wheat or wool. In fact, the United States exports gold much less continuously than would naturally be expected; probably because its rapid growth in population and business makes work at home for a large part of its increased stock of gold.

Corollary 2. *The rapid issue by any government of a large amount of legal tender money, or even the mere presence of that money, is likely to result in an outflow of standard money.*

Thus the 378 millions in silver dollars and the 155 millions of treasury notes, issued by the government of the United States between 1878 and 1893, must in itself have tended to cause an outflow of gold.

The argument for the principle is evident. First, under the policy supposed, the stock of non-standard legal tender money is always liable to become excessive, i. e. greater in amount than the uses to which it can be put. Secondly, the kind of money in question being inelastic, the excess can not be relieved by its contraction; and, therefore, the *stock of money in general* tends to become excessive. Thirdly, an excess in the stock tends to bring about a redistribution through the export of money. Finally, if any money goes, it must be standard money; since this only is acceptable to the foreigner.

Corollary 3. *In the industrial depression which usually follows a panic, there is likely to be a considerable net movement of money from the country experiencing such depression.**

The industrial depression causes the old stock of money to be excessive as compared to the need for it. If this excess is promptly relieved by the contraction of some non-standard portion of the stock, no export will follow. But, if, as is more commonly the case, the non-standard money

* Cf. Corollary 3, Principle 3.

is lacking in power to contract, the excess must be relieved by export, and for this purpose only standard money will be taken.

An evident inference from the last principle and its corollaries is that, under a well-devised system, there will be, in normal times, no need for interference by the government or any other institution to insure to each country or each district its proper share in the monetary stock. Indeed, speaking generally, it is agreed by all specialists that nine out of ten of all efforts to interfere with the automatic distribution of money work more harm than good. Still, this, like most general principles, has exceptions, or at least limitations which almost amount to exceptions. On account of the importance of these exceptions, I shall present them in the form of independent principles.

Principle 6. *As between older and richer communities, on the one hand, and newer and poorer communities, on the other, the money stock tends to distribute itself so that the newer and poorer communities are less adequately furnished considering their absolute needs.*

In this principle, we have the explanation of much of the monetary history of America from the earliest times to the present day. For nearly three hundred years, some part of the country has been a frontier district, i. e. a district new and poor. As such a frontier district, it has from the nature of the case been scantily supplied with a medium of exchange, and has made all sorts of efforts—some of them quite foolish—to remedy the evil. Something, perhaps, might have been done to help matters. But, in a general way, the difficulty was one which only time could remedy. The undesirable distribution was natural and inevitable.

It is only this historical significance of the principle before us which justifies its being put forward as an independent principle. For, in reality, it is a qualification of Principle 5, and a qualification which is already assumed in stating that principle. That is, the word "need" in such

economic propositions does not mean *absolute* need. When it is said that the natural working of economic laws distributes cotton or wheat or beef according to need, it is not meant that a *poor* country gets its need for any one of these supplied as fully as a rich country does. What it means is that the poor country gets what would be *its* natural share of the output of the product in question,—the share which would naturally fall to it, *taking into account its total resources*. Such a share equals its *effective* need for the thing in question, the degree of need which it can properly attempt to satisfy.

The truth of the principle before us could be shown by an appeal to history. But the causes at work furnish sufficiently convincing evidence. New and poor districts can not expect to be amply supplied with a medium of exchange, just because they are new and poor. A stock of money no more comes by magic than good roads, paved streets, palatial residences, and so on. Like all other good things, it costs something. If a frontier community is determined to have an abundant stock of money, it must go without some other form of wealth. But, from the nature of the circumstances, there are in such a case many other things more truly indispensable than money. Such a community needs, most of all, live stock, plows, reapers, stoves, chairs, tables, etc.,—the foundation goods of civilized life. Naturally it uses most of its buying power with older communities to purchase, not money, but these more elementary necessities. Without a common understanding, but still with pretty general concert, such a community tries to get on without the expensive money of older communities. At first, it accomplishes this by a resort to barter. Next, it substitutes, for the specialized money of older communities, some commodity which serves as money at the same time that it continues to be goods; for example, corn, cattle, tobacco. A little later, the community tries to invent some cheap substitute for ordinary money. It is at this stage,

that the real trouble begins. For more harm is generally wrought by the badness of the new money than the gain from having an abundant stock of it. But, whatever the outcome of these experiments, the proposition, that newer and poorer communities will naturally have a scantier stock of money than they could well use, is evident enough.

Principle 7. *The money of a country tends, in a measure, to gravitate to the centers of trade, particularly the chief center, so that special efforts seem necessary to keep outlying districts supplied.*

This principle teaches that, for the distribution of money between the great centers and outlying districts, we can not entirely depend on the working of automatic processes. Some conscious interference is necessary to keep outside districts adequately supplied. As soon as money's work in the country districts is done, it naturally gravitates back to the city.

One of the most notable and important illustrations of this principle is the fact already alluded to, that every summer money has to be drawn from New York, and other centers, "to move the crops." This experience of the country as a whole is duplicated on a small scale between every trading center and the territory immediately dependent upon it. For example, some years ago in a certain Michigan village which had a factory with a pay-roll of \$2,000 per week, it proved necessary for the local bank to bring out the \$2,000 in cash from Detroit, practically every week in the year. That is, the \$2,000 having been paid to the workmen, instead of remaining in the village ready for use the next week, before the time was up found its way into Detroit, from which it had to be taken back by the banker.

Another rather striking illustration of this principle comes from the Copper Country of Michigan. There the banks are every month called upon by a great mining company to furnish many thousands of dollars in fifty-dollar bills, and these bills have to be shipped in from Chicago or

New York, not once but every time. This seems very strange. One would suppose that those bills which were shipped in, and used, in January would drift back to the banks and be ready for a second job in February. But not so; when February comes around, the bills have all disappeared, and the operation of shipping in has to be repeated. And this goes on indefinitely.

Coming, now, to the *explanation* of the tendency brought out in the principle, we find two or three causes at work. First, money which has become temporarily idle naturally gravitates toward the point where the chances of profitable *temporary* investment are most numerous. (Principle 3, Corollary 2.) Now, a country bank has practically no opportunity to make really temporary loans,—call loans, loans which must be paid back whenever called for after one day. On the other hand, a great city with vast markets where speculation in stocks, bonds, and the great staples is carried on daily, can ordinarily utilize millions in demand loans. Accordingly, there is always a *chance*, at least, that money which is only temporarily idle will be able to find employment of some sort in the great trade centers; while, if left in the country, its failure to get employment is certain. Hence such money naturally gravitates to the great center.

A second reason for this tendency of the money stock to gravitate to the great centers is found in the fact that *the non-banking movements of money are preponderantly toward these centers*. By non-banking movements I mean those movements which are effected without the intervention of banks, such as the sending of money through the mails by buyers of goods, the carrying of money by travelers, shipments between postoffices or different agencies of express companies, and so on. Doubtless the comparative volume of this class of movements tends to decrease, and the task of moving whatever money has to move, tends to pass into the hands of banks. But the quantity of such non-

banking movements is still considerable and has a very notable influence on the distribution of the money stock, in that it usually shows an excess *toward* banking centers. For this there are several reasons.

Thus, travel in any district is bound to bring some cash into that district, even though larger sums be carried in the shape of drafts and letters of credit. But there will be more travel, as a rule, *from* the country town than *vice versa*; and, besides, it will be of a sort which depends more on cash than does city travel. Again, shoppers—persons making retail purchases—always carry some cash, and shoppers always go from the country to the city rather than from the city to the country. In like manner, there will be a considerable volume of retail buying from the city by mail orders, and this will be paid for, in some measure, by sending cash. On the other hand, the city buyers of the few exports of a country town almost universally pay for them with credit media of exchange rather than money. Or, speaking more precisely, the local buyers of produce, when they in turn sell to the great centers, collect their pay by means of credit, i. e. bills of exchange. Still another reason for the drift toward the city is to be found in the fact that great corporations doing business everywhere, e. g. railways and express companies, as a rule keep their bank accounts only in considerable cities. As a consequence, the local agent in a village ships his money receipts into some neighboring city.

Principle 8. *While in general the proper distribution of the world's stock of standard money among the different countries can safely be left to the working of automatic processes, circumstances may arise under which it is desirable consciously to control particular movements of money, in order to maintain the stability of the system of credit.*

In Chapter II, we learned that, in a typical monetary system of our day, a large part of the total monetary stock consists of various kinds of representative, or credit, money.

Further, though the matter has not been formally discussed, we may assume the student to be familiar with the fact that a still larger part of the total circulating medium consists of something which is not money at all but only bank credit.* Now, it is plain that, under such an order of things, the *foundation of real money*, on which the whole system rests, is vastly more important than any other constituent of the circulating medium. It is not mere money; it is emphatically the basis of the whole system. This is particularly true of *that portion* of the stock of such money which constitutes what in Chapter II we called the *ultimate reserve*.† To maintain this ultimate reserve in adequate volume is of the greatest importance, not because we need it as a medium of exchange, but because, if it goes, the whole system falls in ruins. This being true, an export of standard money or bullion is not simply an export of money, —rather it is, or at least may become, *the export of the very foundation* of the monetary and credit system. So that one might almost compare a country which at a critical time is exporting standard money, to a dealer in building stone who should set about selling the foundation of his own house.

Accordingly, it is perfectly natural that every considerable movement of standard money should be jealously watched with reference to its possible bearing on the ultimate reserve of the system. When that reserve is being drawn down, it is not enough to say that, in the long run, any excessive drain will correct itself. We can not afford to wait for the long run. Too serious consequences may come in the meanwhile. We must anticipate the working of nature's forces. The processes by which she automatically corrects the drain may consume considerable time. In

* This mode of expression is of doubtful precision; but it is just at present the conventional one.

† See page 73.

the interim, the reserve might disappear altogether, or at least suffer serious depletion. The disappearance of the ultimate reserve would mean the overthrow of the standard. Even its serious depletion would excite such anxiety in the business world as seriously to injure industry and perhaps precipitate a panic. Thus, it might easily be the duty of the government, or the great central bank, to take active and vigorous measures to check an outflow of standard money.

A specially important case in application of this principle arises when the drain is due to statutes, or other artificial conditions, which at the very best can not be changed for a considerable time. In such circumstances, temporary measures—"stay" measures—are imperatively demanded. Something must be done to preserve our stock of standard money, till we have had opportunity to remedy the cause of the difficulty, or to diminish the evil results, if the causes are such that removal is impossible. Thus, under the system of the United States as it existed prior to 1900, it seemed quite impossible during two or three years to maintain our ultimate reserve without resorting to the very heroic policy of borrowing gold on the open market, and, in one case at least, specifying that none of it should be drawn from the Treasury and one-half should be imported from Europe. That we shall ever again be obliged to go so far may be doubted. But we are by no means out of the woods.

A very peculiar case calling for interference may arise when a nation finds itself experiencing the specie drain incident to a great war. (Principle 3, Corollary 4.) For example, after the opening disasters of the war of 1870, France found that the specie of the great bank reserve was being drawn out for export. Unwilling to lose this great stock, she directed the Bank to cease making specie payments. This policy was of course seriously objectionable in that it involved a temporary overthrow of the standard of

value, and a setting up of a fiat money standard; but it stopped completely the outflow of specie, and this, in the opinion of the government, was the immediate object of greatest importance. Further, the paper money was so judiciously handled that the change in the standard was comparatively small, and the evil effects resulting therefrom were quite insignificant.

Principle 9. *Any metallic money which has been driven out of circulation under the working of Principle 7, Chapter III, tends very soon thereafter to leave the country as well as the circulation.*

In Principle 7, Chapter III, was brought out the point that a money which has a value in some other relation greater than its nominal value as money, is almost certain to leave the circulation. The principle before us adds that when such a money is a metallic one, as is usually the case, it also tends to leave the country.

Numerous illustrations of this principle are furnished by the history both of Europe and the United States. One of the best is to be found in the experience of France during the years immediately following the Californian and Australian gold discoveries. At that time France had a bimetallic system; and her mint ratio, 1 to 15.5, overvalued gold by 2 or 3 cents in the dollar. As a consequence gold became the standard and silver went out of circulation. But it also *left the country*. For, although France normally imports silver, yet between 1852 and 1864 her net exports of that metal amounted to about \$345,000,000.

The reasonableness of the principle is made evident by a consideration of the causes at work. First, by hypothesis the money in question is out of circulation and, so, is mere bullion—a metal, not money. But, again, this changing of such a quantity of silver or gold money into silver or gold bullion inevitably makes the stock of such bullion altogether excessive for the uses to which it can now be put. In consequence, the value of

bullion in the country where it has experienced this change, as compared with its value in neighboring countries, is lowered. That is, the premium which it probably bears in the home country is not high enough to cover the difference between its nominal value as money and its value in other countries. Export is now inevitable. It will go to the countries where its value is the greater:

I will close this chapter with two empirical principles respecting actual monetary currents in which the United States has especial interest. The explanation of them, I will leave to the student.

Principle 10. *Between America and Europe there is usually a net movement of money toward Europe during the second quarter of the year, toward America during the third and fourth quarters.*

Principle 11. *Between New York City, as the banking center of the United States, and the country at large, there are usually two pairs of great money movements, each having an inward (toward New York) and outward (from New York) member. The lesser pair has its outward flow in the late winter or early spring, and its reflux in the late spring or early summer. The great pair has its outward flow in the summer and autumn, and its reflux in the late fall or early winter.*

PROBLEMS.

1. Make a table showing the net movement of money between New York and the interior for each week from July 1 to December 31 of any recent year. The Commercial and Financial Chronicle will furnish the facts.

2. There was a large net import of gold into this country during 1880 and 1881. How do you explain that fact?

3. The Michigan Milling Company of Ann Arbor sells flour to the value of \$250 to Henry Long and Co., of Poughkeepsie, N. Y.; and collects payment by making a sight

draft on Long, which it deposits for credit in the First National Bank.

(a) Write out the draft.

(b) Trace the probable course of the draft from the First National Bank till it is collected. (See Banking Exhibits in Library.)

4. In connection with the postal order business, the Ann Arbor office has much more occasion to collect from the New York office by draft than it has to remit to that office. What do you suppose is the explanation?

5. The express companies and the post-office in Ann Arbor are competitors of the banks in the business of furnishing the public with the means of making remittances to distant places. Yet these institutions have no trouble selling to the banks at par, drafts on their New York offices. What do you suppose is the explanation?

6. "The exchange market was well supplied with bills on London growing out of stock transactions."—Newspaper. Explain the meaning.

7. In a footnote on page 130 it is said that \$4.895 (as the rate of exchange on London) is called the gold-export point. Show that there is a gold-import point; what it is; and why.

8. "When I came to Marblehead they had their houses built by country workmen, and their clothes made out of town, and supplied themselves with beef and pork from Boston, *which drained the town of its money.*"—Barnard's Autobiography. Criticise the part in italics.

9. "Bills drawn against these heavy shipments (of cotton) flooded the foreign exchange market this week (Nov. 19, 1903), depressing it to the lowest level since November, 1900." Explain fully what this means.

10. Argument for a subsidy to the American merchant marine:

"We pay 110 million dollars per annum for the carrying of products between this and foreign countries. Think of

it. One hundred and ten million dollars in gold coin has gone out of the commerce of this country into the commerce of other countries. Can New York stand this?"—James G. Blaine, 1881.

(a) Did our paying 110 million dollars per annum for freights mean that \$110,000,000 in gold coin was directly used for this purpose?

(b) Did it mean that in the end we lost that much gold?

11. A New York wheat broker sells 50,000 bu. of wheat to a Liverpool miller, and sells against it a sight bill of exchange for the proceeds, £8735 16s. The wheat cost him 84c per bu. With exchange on London at \$4.875, what would his profits be? What would they be with exchange at \$4.85?

How would a change from the former to the latter figure tend to affect exports from America? Explain.

12. "In spite of the fact that the rate of exchange is at \$4.85 several large gold shipments to France were made last week." What kind of a movement must this have been?

13. "Nevertheless about a million sterling this year will go out of the country for cars (automobiles) of foreign manufacture. All of this ought to have been retained at home."—From an English magazine, 1902. Criticise.

14. From Cuming's Tour (1807). Lamenting the discontinuance of lead mining at Millerstown, Ky., Cuming says it "might have been the source of a very extensive traffic to the state independent of the keeping in it a considerable sum of the circulating medium which is now paid for that useful metal (lead)." Show that there is no reason to suppose that Millerstown had any less circulating medium than it would have had, if it had produced lead rather than bought it.

15. "So long as we were employing large amounts of capital borrowed from Europe, it was inevitable that our interest obligations on that capital would lead to a large net

export of gold almost every year. But now that our industries have become self-sustaining, the case is wholly changed. Doubtless in the future as in the past, we shall see temporary outward movements of gold quickly to be offset by reverse movements. But *net* exports, exports which for a period of years steadily exceed imports, these, we may be sure, have ceased permanently."

Assuming it to be true that our industries have become self-sustaining, criticise the first and fourth sentences.

16. Show that the export of gold from a country producing it like the United States, does not naturally take the same form as that taken by other exports such as cotton and wheat.

17. "If it were possible for any one county to provide by law or otherwise that no dollar which came into it could be sent out, within two years the county would be so much richer than its neighbors that they would begin to wonder, etc." (a) Supposing the county in question to have the amount of money needed to carry on its trade, would it be of any advantage to its inhabitants to have additional amounts brought in and kept in? (b) Would it mean diminished prosperity?

18. "You admit that it would increase the productive power of a particular county to have a man worth a hundred thousand dollars move in, bringing his wealth with him. How then can you deny that the county would grow richer if it could and should for two or three years stop all money going out."

Under normal conditions, would a man's bringing \$100,000 in money into the county under a strictly enforced condition that not one cent more should go out of the county in purchase of goods from other places than would have gone if the \$100,000 had not come in, tend to increase the productive power of the county?

19. For some weeks during the first half of 1895, the rate of exchange on London was all the time about \$4.90;

yet gold was not exported. Try to get the explanation. Noyes' Thirty Years of American Finance will help.

20. Give a special reason why the United States in borrowing from Europe would not naturally take the proceeds in the form of money (gold).

21. Look up the so-called discount policy used by the Bank of England to protect its gold reserve; and explain its working.

22. "New York, Dec. 11, 1903. The banks gained from the interior this week \$2,042,806."—Newspaper. Was that normal?

23. In 1850 our mint coined both gold and silver at a ratio of 15.98 to 1, while the market ratio was 15.7 to 1. Which metal did we overrate? Which metal did France, with a mint ratio of 15.5 to 1, overrate at that time?

24. In 1855 France was coining both gold and silver at a ratio of 15.5 to 1, while the market ratio was 15.38 to 1. Which metal, if any, must have been exported?

25. Suppose France and England had bimetallic systems and the latter wished to draw gold from the French circulation into her own. How could she accomplish this result?

26. "I see that Mexico is proposing to adopt a gold dollar about half as valuable as ours, that is, to make 25.8 grains of gold worth 2 dollars, thus rating it a hundred per cent higher than we do. This should not be allowed, for, making gold worth twice as much in Mexico as here (the United States), it will surely lead to the export of our gold into Mexico, thus cutting out the very foundation of our system." Explain this fallacy.

27. How do you explain the fact that new communities are apt to experiment with cheap substitutes for what is commonly called "sound money."

28. Between 1891 and 1896 our gold exports were most of the time abnormally in excess of our imports. Give various causes which probably contributed to this result. You

can get help from Noyes' *Thirty Years of American Finance*.

29. Why is there a liability that our stock of silver dollars and certificates will bring about a gold drain from the country, even though this kind of money continues to be on a par with gold? Why would it naturally drive out gold, if it did not remain on a par with gold?

30. What was the direction of the net movement of gold between us and foreign countries between 1864 and 1876? What do you suppose is the explanation? (Get facts from *Statistical Abstract* for 1900.)

31. What was the direction of the net gold movement in 1877 and 1878? Explain why.

32. "In the first six months of 1890.... nine-tenths of the customs revenue at New York was received in gold; in the corresponding period of 1892, three-fourths of it came in legal tender notes." Noyes' *Thirty Years of American Finance*, p. 169. Explain the fact.

33. "London, Nov. 20, 1903. One hundred and fifty thousand pounds sterling gold will be shipped tomorrow to America." Is this normal?

34. From 1894 to 1897 inclusive, almost no gold, coin or certificates, was received by the United States for customs,—treasury notes and certificates making nearly 100 per cent of the receipts. In 1898 the tide turned, and from that time on gold constituted from 70 to 90 per cent. Explain the facts.

35. Nov. 21, 1903 "the movement of currency to the interior continues, but on a smaller scale than for some weeks." Is this a normal state of things?

36. Show that the abundance of exchange on Europe created in New York by our borrowing from Europe (page 122), would automatically stimulate imports.

CHAPTER V.

THE MONEY STANDARD.

In Chapter II we learned what is meant by the monetary standard and how it is one of the most vital elements in a monetary system. Since it is of such significance, its proper regulation and management is very important. If, for example, we set out to have gold for our standard and yet find it best to use silver for a subordinate money, there is the possibility that the silver will drive out the gold and make itself the standard; and, to avoid this result, matters must be regulated and managed in just the right way. But, in order to manage properly matters pertaining to the standard, we must of course know the natural laws governing these matters. Accordingly, this chapter is devoted to the *principles concerned with the monetary standard*. These principles we shall find it convenient to divide into three groups: (1) those *defining* the immediate standard, or *standard money*, (2) those *determining* the *standard money*, and (3) those defining and determining the *ultimate standard*.

I. DEFINING STANDARD MONEY.

Principle 1. *The standard money of any system must be a money which is at par.*

This proposition is hardly more than a corollary from the definition of standard money. Standard money is that money which is the immediate standard of the system, i. e. the money which immediately determines what the money unit is worth. To it, the money unit is anchored. Its value is the value given to the unit. But plainly we can not say of a given money that it fixes the value of the money unit, unless a unit of that money has the same value as the

money unit it is said to fix. Thus we surely can not say that gold coin is the standard money of the United States, if we find that gold ten-dollar pieces are worth eleven dollars each. Some other money worth ten-elevenths as much as gold must really be fixing the value of one dollar. Not all par moneys are standard money, but surely no money which is not at par can be standard money.

To illustrate this principle from our history, take the condition of things about fifty years ago. At that time the circulation of the United States contained more or less gold coin worth 100 cents on the dollar, bank notes ranging from 80 to 99 cents, and some silver dollars worth \$1.03. Among the three, the gold only could have been standard money; for neither the silver nor the notes was fixing the value of one dollar,—the silver was not, because it was worth *more* than one dollar; the notes were not, because they were worth *less* than one dollar.

Principle 2. *The standard money must be that one among the moneys which are constantly at par, which alone* has its value fixed independently of its relations to any other money forming a part of the circulation.*

Principle 1 told us that the standard money must be one which is at par. But it is not unusual to find two or more moneys fulfilling this condition. Which of such par moneys is the standard money? The principle before us enables us to answer this question for the majority of cases. Usually one, and only one, of the moneys has its value determined independently of the rest of the moneys. Thus at the present time, though all of the moneys of the United States are at par, only one has its value independently determined, i. e. gold coin, the value of which is fixed by a lump of gold weighing 25.8 grains. In such a case, the

* For the case of the *really concurrent circulation of two metallic moneys*, both of which have the status of standard money,—a very rare case indeed,—see Principle 3.

money which alone has its value independently determined must be standard money.

The argument for the principle is as follows. First, the independently-determined money and the other moneys in question *coincide in value*; since by hypothesis they all are constantly at par. Secondly, the coincidence in value between the independently-determined money and the other par moneys can not be explained by supposing that the value of the former is fixed by that of the latter; since this would contradict the hypothesis that the value of the former is independently determined. Thirdly, it is not reasonable to explain the coincidence as due to *chance*; since (a) the theory that chance could *constantly* maintain such a coincidence is manifestly too improbable to be accepted save as a last resort, and (b) this extreme theory is presumably needless, since the other moneys by hypothesis are *not determined by anything outside*, hence are presumably free to move, and therefore maintain their coincidence with the independently-determined money *by adjusting themselves to it*. Finally, since the value of these other moneys is adjusted to, and determined by, that of the independently-determined money, *it*, not they, must immediately fix the value of the money unit; and so must be standard money.

Corollary 1. *As between a money which is habitually presented for redemption and redeemed in another money and the money in which such redemption takes place, the decision must go to the latter.*

Thus, between treasury notes redeemable in gold coin and gold coin itself we must recognize gold coin as the standard money. This is too obvious to need proof.

Corollary 2. *As between a metallic money which is at par and freely coined and a metallic money which, though at par, is not freely coined, the decision must go to the former.*

It is the principle contained in this corollary which makes gold coin rather than silver dollars the standard money of

the United States at the present time. The argument is as follows: (1) The value of the freely coined money is independently* determined. (2) The value of the not-freely-coined money is not independently determined. (3) Hence the former is standard money. The first proposition follows from a principle more naturally laid down in a later chapter, that a money which is freely coined must have the same value as the bullion in it. If it were worth more than the bullion, people would hasten to have the stock of metal turned into coin. If it were worth less than the bullion, people would promptly melt it into bullion. Hence the value of a freely coined money is bound to be determined only by the value of the metal in it, and therefore is bound to be determined quite independently of other moneys. The second proposition is equally certain. The value of a par money which is not freely coined is *not independently determined*. First, its value manifestly has no fixed relation to the value of the bullion in it. Because its coinage is limited, its value will be somewhat greater than that of the bullion, but not greater by *a constant amount*. It is sometimes worth forty per cent more than the bullion, sometimes ten per cent, sometimes one hundred per cent, and so on. That is, as respects its value as a coin such money is altogether cut loose from the bullion it contains, ranging as respects that bullion in untrammelled freedom. Secondly, it is impossible to believe that the value of such a money is determined by the quantity put out. In technical language it is not a case of scarcity value. If it were, its value would fall as the stock increased, rise as it diminished; whereas, overrated coins like our silver dollar stay all the time at par with freely-coined gold, whether 50 millions are out or 100 millions or 400 millions. Thus the freely coined money is independently determined as respects its value, while the

* That is, independently of the other moneys.

not-freely-coined money is not so determined. The former then is standard money.

Corollary 3. *As between a circulating note on which payment has been temporarily suspended and an overrated, legal tender, irredeemable, coin, the former must usually be looked on as the standard money.*

To illustrate this corollary, let us suppose that, without any material change in our monetary system, the Treasury should cease to redeem its notes in gold, though redeeming them in silver if desired. Let us suppose further that gold went to a premium of 15 cents, a gold dollar commanding on the market \$1.15, while treasury notes and silver dollars remained at par. What in that case should be considered standard money, treasury notes or silver dollars? I answer, treasury notes. For, in the case supposed, it seems certain that treasury notes would have their value determined independently of their relation to the silver dollars or any other money in circulation, while silver dollars would have a value dependent on that of the treasury notes. In the first place, there is no reason to suppose that notes have their value kept equal to silver because redeemable in it. By hypothesis silver dollars are as coin worth much more than the bullion in them; so that no one would wish to exchange the notes for silver dollars to be melted for the silver in them. Again, since the notes are just as good for monetary purposes as the silver, no one would wish to exchange them for silver to be used as money. Thus it is not reasonable to suppose that the notes would have their value fixed by silver because redeemable in it.

But, not only is the value of notes not dependent on silver redemption, there is further reason to think that such value is dependent on the relation of the notes to something else, that is, gold. For by hypothesis we are dealing with a case of *only suspended* gold redemption. Since law as well as the general understanding call for payment in gold, the failure to make such payment would certainly be looked

on as temporary. People would say, "Sooner or later resumption will take place, when these notes will be good as gold." Accordingly, the notes will be held somewhere near gold, moving nearer or further away, according as faith in exchange for greenbacks is small or large. In short, the value of treasury notes will tend to be fixed by their relation not to silver or any other actual money, but rather to something no longer a money, i. e. gold coin. Silver dollars, on the other hand, would have no such independent fixation. Their value would not be fixed by the bullion in them, that bullion being worth much less than they would be. They would not be fixed by their relation to gold, since they are not redeemable in gold now and would not have any prospect of being so redeemed. Thus, under the hypothesis before us, silver and notes would remain constantly equal in value, while only one of them, the notes, has an outside determination of its value, the notes therefore according to the principle last stated would be standard money.

Principle 3. *If, as happens in rare cases, there are two par moneys each of which has its value independently determined, either may be looked on as the standard money.*

Between 1834 and 1849 the laws of the United States gave to both gold and silver the prerogatives of full legal tender and free coinage, at a ratio so near that of the market that both metals were coined and circulated.* Since each was independent of the other in respect to its value, being worth the same as the bullion it contained, neither could claim the place of standard money to the exclusion of the other. When in 1849 gold decidedly fell in value as compared with silver, the latter metal went to a premium and so ceased to be standard money, Principle 1.

* This statement is contrary to the usual account of the matter but is, I think, correct.

11. DETERMINING THE STANDARD MONEY.

The preceding discussion has furnished principles which enable us to answer the question, How is standard money ascertained? We have now to go into the deeper question, How is standard money *determined*? What under given conditions must be standard money?

In our account of a monetary system in Chapter II, it was brought out that the standard money of any system performs that rôle in more than one relation, making it possible to conceive and even to have several standard moneys. Thus we may have the standard money of prices, the standard money of taxes, the standard money of railway debts, the standard money of commercial debts, and so on. Now, of these several possible standard moneys, two are for practical purposes most significant, the standard money of prices and the standard money of ordinary debts. Our first task is to ascertain the relation of these two. (1) Are they the same or different? (2) If the same, which is the principal one? Which is the mountain and which is Mahomet? Now all experience shows us that these are nearly always the same. I doubt if there ever was an exception. And this identity of the two we can easily see is bound to come. Just fancy how it would work to have in business one meaning for the dollar in debts and another for the dollar in prices! Think of the grocer fixing his prices in one kind of dollar, while his note to the jobber or the charge on his books against a credit customer was in another sort of dollar! Surely no man of sense would carry on business in this way unless he was obliged to. And of course he would not be obliged to; for he is at liberty to rate his prices in any sort of dollar he pleases. It is quite certain, then, that the standard money of prices and that of debts will be the same.

But now comes the second question. Which will be the determining one of the two? Which will first be fixed

and then fix the other? Will some money become the standard money of prices and then make itself the standard money of debts, or *vice versa*? The answer is easy. Some one money will become the standard money of debts and then take for itself also the place of standard money in prices. This follows; because the standard money of prices is free to move, while that of debts is not. Government commonly fixes what moneys shall be legal tenders; whereupon natural law steps in and decides which one of several legal tenders shall be the standard money of debts. This result men can not change, save under very exceptional circumstances. But, while the standard money of debts is fixed by human and natural laws, that of prices is wholly a matter of the choice of the individual dealer. He is free to rate his goods in gold dollars, or silver dollars, or greenback dollars, or even pounds or marks, if he desires. If then the two dollars are to be the same, it will be because the dollar of prices is made the same as that of debts. But they are bound to be the same, as we just saw; therefore the standard money of debts fixes that of prices. Putting this into formal shape we have

Principle 4. *If there are in any system two or more moneys, that one which is the standard money of commercial debts will commonly establish itself as the standard money of prices also, that is, as standard money in general.*

NOTE.—It is not necessary that all the standard moneys of a system should be identical. The standard money of long time debts could easily be different from that of ordinary debts, in fact, for certain classes of long time debts, this has more than once been the case. In like manner, the standard money of certain payments to government may be different from what I call standard money in general. This was the case between 1862 and 1879, when customs duties to the United States had to be paid in coin or certain Treasury

notes equivalent to coin,* and so the dollar in the tariff meant a quite different thing from the dollar of ordinary life.

We have just seen that the standard money in general is bound to be the same as that of debts. Let us go on to fix it still more definitely. In any typical monetary system, there will be one or more moneys which by law or general consent are a valid tender in payment of debts. Now, it is almost self-evident that the standard money of debts will be one of these valid tenders. Thus, if we have circulating side by side, gold coin, silver coin, treasury notes, and bank notes, of which the first three are a valid tender and the fourth is not, the standard money of debts is certain to be one of the first three; it can not be the fourth. This needs no proof. It follows necessarily from the fact that creditors have no right to refuse any one of the first three, but have the right to refuse the fourth. The fourth, therefore, can not make headway against its rivals. It must be admitted, however, that on various occasions there have occurred what seem to be exceptions to this statement. Non-legal tender bank notes have at times been the standard money of debts. But this is no real exception; for it has happened only when, by the consent of government or of the general public, banks have been allowed to suspend legal money payments; that is, to treat their own notes as a valid tender in the payment of their obligations. It is certain, then, that the standard money of debts is bound to be one of the moneys which are by law or custom a valid tender for debts. But Principle 4 tells that the money which is the standard money for debts will commonly establish itself as the standard money of prices. This gives us

Principle 5. *The standard money of any system will commonly be one of the moneys which by law or general consent are valid tenders in payment of commercial debts.*

* Demand notes of 1861.

Corollary 1. *Any money which by law or general consent is made the sole valid tender in payment of debts will be standard money.*

Corollary 2. *If any money not legal tender in payment of commercial debts becomes less valuable in exchange than the legal tender moneys, this fact will usually show itself in a discount on the less valuable money.*

Thus, in the United States before 1863, whenever bank notes depreciated in value, this almost always showed in a discount on the notes. These notes were not legal tender and could not usually gain the position of standard money. If, therefore, they became depreciated, this fact showed in their being worth less than their face value, that is, in their passing at a discount. It is possible, however, for circumstances to arise under which such non-legal tender bank notes become a valid tender by public acquiescence; in which case they may become standard money. See Cor. 5 under the next principle.

We have just seen that the standard money is bound to be one of the moneys which are a valid tender in payment of debts. But, supposing these valid tenders to be unequal in value, which one of them will be the standard money? First, which will be the standard money of debts? If you had the right to pay your debts with either of two moneys one of which was worth three cents more than the other, which would you naturally choose? The cheaper of course. And what you would naturally do, experience proves that debtors generally do. It follows, then, that the cheapest of two or more valid tenders will be the standard money of debts. But, being the standard money of debts, it will establish itself as the standard money of prices, Principle 4. Hence:

Principle 6. *If, among the valid tenders of any system, differences of exchange value arise, the cheapest of such valid tenders establishes itself as the standard money.*

NOTE 1.—A difference in bullion or material (intrinsic) value is not sufficient to bring this principle into operation.

NOTE 2.—It is possible that a general consensus of action on the part of the public should take away the prerogative of valid tender from a money to which this status is given by law. In that case such a money does not become standard money, even though it is the cheapest. A notable instance of this is found in the history of California between 1862 and 1879. Although treasury notes were then a valid tender by Federal law and were much cheaper than gold, the latter continued to be the standard money of California. This result was effected by concerted action on the part of the public, depriving the treasury note of its status of valid tender.

NOTE 3.—This principle is often called Gresham's law. It should be carefully distinguished from the principle of circulation known by that name. To oust a money from the position of standard money is one thing; to oust it from circulation is another. In the United States at present, gold coin is largely expelled from the circulation by paper and silver, but it is still the standard money.

COROLLARY 1. *A difference in exchange value among the valid tender moneys shows itself in a premium on the more valuable.*

Since the cheapest becomes standard money, then it must be at par (Principle 1). Any money more valuable must therefore be at a premium.

COROLLARY 2. *If two legal tender metallic moneys are freely coined at a coinage ratio different from the market ratio, the money coined from the overrated metal will establish itself as the standard money.*

Thus, when both silver and gold were coined in the United States at a ratio of 16 to 1 though the market ratio was 15.3 to 1, the money made from the overrated metal, gold, established itself as standard money. The reason is plain. Gold being overrated, that is, being too highly esti-

mated, not enough of it was put into the coins. In consequence gold coin was worth less per unit than silver coin. But, being the less valuable of two full legal tender coins, it established itself as the standard money.

Corollary 3. *If, in the case of a valid tender circulating note which has been hitherto kept redeemable in what has been hitherto standard money, a suspension of payments takes place, such legal tender note will almost certainly establish itself as the standard money.*

In the first place, the suspension of specie payments almost certainly makes the paper less valuable than metallic money itself. For the refusal of the issuer to redeem his notes in metallic money almost certainly shows that such money is relatively scarce and difficult to get. In that case outside holders naturally will not furnish it in exchange for the notes of some one else or will do so only for a consideration. That is, the paper will be worth less per unit than the metal. But, if the paper is worth less than metal, being full legal tender it will displace the metal as standard money.

Corollary 4. *If, in a system having, as its recognized standard money, a full weight coin and, as subordinate monies, legal tender, redeemable notes and a legal tender but overrated and irredeemable coin, it becomes impossible in practice to convert the last-named money into full weight standard money without expense, then the overrated coin will establish itself as the standard money.*

Thus, if under the system at present prevailing in the United States it should become impossible to exchange silver dollars or certificates for treasury notes or gold though the treasury notes continued to be redeemable in gold, then silver dollars would become the standard money and gold and treasury notes would go to a premium. The argument is simple. Since persons holding silver dollars would have more or less occasion to convert these into gold and could not do so without expense, a regular premium on gold and

notes in terms of silver would arise—silver would become less valuable than gold or notes. But being full legal tender as well as less valuable, it would displace gold and establish itself as standard money.

Corollary 5. *If, in a system using for its paper circulation only non-legal tender bank notes, there takes place a general suspension of standard money payment on such notes, these notes will temporarily establish themselves as the standard money.*

In the first place, a suspension of payments on notes inevitably leads to a fall of their value below metallic money. If the issuer refuses to give gold for them, outsiders surely will do the same. So that any one wishing to exchange notes for gold finds himself obliged to pay something extra. But, again, under the circumstances before us, this something extra paid for gold *takes the form of a premium on gold* rather than that of a discount on notes. This would not ordinarily be true, as we learned from Principle 5, Cor. 2. The note, not being legal tender, is not commonly a valid tender at all. But the conditions are not ordinary. By hypothesis a general suspension of specie payments has taken place; that is, practically all banks in a given city or district are refusing to redeem their notes in standard money. Under these conditions there is really nothing for the public to do but to accept the notes of the bank as a valid tender. If they refuse to do so, there is no medium of exchange left to carry on business with. Accordingly, the business world acquiesces in the temporary suspension of payments, and exchange is carried on with notes, these being accepted both in exchange for goods and in discharge of debts. Thus, the notes are less valuable than metallic money, and by the acquiescence of the public they become a valid tender for ordinary debts. They therefore become standard money according to the principle before us.

The principle embodied in the above corollary was illus-

trated in the United States in 1837, in 1857, and probably in every suspension of specie payments prior to the passage of the national bank act in 1863.

Corollary 6. *If, in a community which extensively employs bank credit (deposit currency) as a substitute for money, there takes place a general suspension of payment on deposits though not on notes, then bank credit or deposit currency will temporarily establish itself as the standard money or the standard medium of exchange, and all forms of money proper will go to a premium.*

This principle has been illustrated two or three times under our present bank system. Thus for several weeks in 1893 in several Eastern cities where there was a practical suspension of payment to depositors, all forms of ordinary money commanded a premium of from two to four cents on the dollar, and bank credit was the standard medium of exchange. The reasoning is like that under Cor. 5. Bank credit being no longer convertible into money would naturally be less valuable than money; and, since in the general suspension of money payments the public had no other medium of exchange, they would be driven to accept bank credit as a valid, though not legal, tender. Bank credit, therefore, being the cheapest valid tender, would establish itself as the standard medium exchange.

III. PRINCIPLES DEFINING AND DETERMINING THE ULTIMATE STANDARD.

From the preceding discussion we have learned how to recognize standard money and what laws determine it. The remaining principles explain the defining and fixing of the *ultimate standard*.

Principle 7. *If by any process whatsoever the standard money is kept constantly equal in value to a definite quantity of some substance or group of substances, such substance or group of substances constitutes the ultimate standard of the system.*

Thus, if gold coin is the standard money and is by free coinage kept constantly equal in value to the bullion it contains, then that bullion is the ultimate standard. Or, if an irredeemable paper is the standard of the system and it is kept equal in value to 412.5 grains of silver, or 25.8 grains of gold, or a bushel of wheat, then 412.5 grains of silver, or 25.8 grains of gold, or a bushel of wheat is the ultimate standard. This principle needs little argument, being not much more than a corollary from the definition of the ultimate standard. Just as standard money is behind other moneys, fixing their value, so behind standard money there may be something still more fundamental fixing the value of standard money, beyond which something there is no further determinant, no other substance or commodity which fixes its value. This "something" we designate the ultimate standard. Now it can hardly be doubted that the 412.5 grains of silver or the 25.8 grains of gold or the bushel of wheat mentioned in the above illustration, answers to our definition of the ultimate standard. Fixing the value of standard money, it is a standard; and not being dependent on something else, it is the *ultimate* standard.

But there is one doubt which may arise in the reader's mind, especially in the case of a freely coined standard money. "When by free coinage our standard money is kept equal in value to 25.8 grains of gold, can we properly say that the metal fixes the value of the money any more truly than the money fixes the value of the metal. Surely gold as a metal has its value influenced by the value of gold money." Undoubtedly the last sentence is correct. The value of the money modifies that of the metal just as truly as the value of the metal modifies that of the money. But then it is sufficient answer to the general argument, that we must think of the whole as determining the part rather than of the part as determining the whole. Gold the substance includes not only the metal used for outside purposes but also *standard money itself*. If the two are equal in value,

it surely must be *the money which submits to the metal* rather than the metal which submits to the money. That is, the metal is the ultimate determinant, the ultimate standard.

Corollary 1. *If the standard money is by any means whatsoever kept interconvertible with a fixed quantity of some metal, said quantity of said metal is thereby made the ultimate standard.*

That under the condition named standard money will necessarily have *the same value* as the said quantity of the said metal, scarcely needs argument. If any one who has the money in question can always exchange it for bullion, if this becomes desirable, it surely can not be worth less than the bullion. On the other hand, if any one who has bullion can always exchange it for standard money, if this becomes desirable, that money can not become worth more than the bullion. Interconvertibility, then, must keep the money and the bullion just equal in value. But, if standard money is kept equal in value to a given quantity of a certain metal, that metal by the principle is made the ultimate standard.

Subcorollary 1. *If the standard money is freely and gratuitously coined and no effective obstacles to melting it are set up, the bullion it contains is thereby made the ultimate standard of the system.*

Under the conditions named standard money is kept interconvertible with the bullion it contains; for under free and gratuitous coinage any one who has bullion can convert it into coin, while free melting insures that any one who has coin can convert it into bullion. But, if these conditions insure the interconvertibility of standard money and bullion, they make said bullion the ultimate standard according to the corollary.

Subcorollary 2. *If some institution maintains a condition of unlimited exchange, purchase and sale, between standard money and a fixed quantity of some metal, said*

quantity of said metal is thereby made the ultimate standard.

One of the most eminent authorities on the subject of money, Ricardo, long ago proposed as a very sensible method of maintaining the gold standard, that the standard money, to consist of legal tender paper, should be kept at par with gold by being bought or sold at a fixed rate in exchange for gold at the issuing bank. For example, if the notes of the Bank of England were to constitute standard money, that bank should be ready at all times to sell these notes for 113 grains of pure gold per pound sterling and buy them in with gold at the same rate; or, what is the same thing looked at the other way about, that the bank should be ready at all times to buy gold with notes and sell gold for notes at the rate of 113 grains of gold for a pound sterling. Plainly the notes under such a system would always be interconvertible with 113 grains of gold, would, therefore, be equal in value to that bullion, which bullion, consequently, would constitute the standard.

Probably no system precisely like this has ever been in operation; but the bank money of the Bank of Amsterdam was during the eighteenth century maintained at a substantially fixed relation to gold bullion by a scheme which pretty nearly realized the conditions proposed by Ricardo. That is, whenever the premium on bank money in terms of the worn coins in circulation fell below a certain point, the bank paid out specie, gold or silver, for bank money; and, on the other hand, whenever the premium on bank money went above a certain point, the Bank paid out bank money in exchange for specie. In this way, a quantity of bullion worth three or four per cent more than the coin commonly current seems to have been maintained as the ultimate standard of the system for larger transactions.

Corollary 2. *If, in a country having for its standard money a fiat note or coin, such action is taken that the rate of exchange on some other country which has, as its ulti-*

mate standard a definite quantity of a certain metal, is kept substantially constant, then some definite quantity of said metal is thereby made the ultimate standard of the first country.

In 1893 India, which had previously maintained a silver standard, suspended the coinage of its standard money, silver rupees, thus transforming that money into a fiat money having an exchange value something in excess of its bullion value. The immediate effect was to make silver rupees, rather than silver bullion, the ultimate standard (See Principle 8). The government, however, had not intended to establish such a system, but rather to work toward a gold standard, perhaps establishing such a standard under the condition of still using silver rupees as standard money. Apparently they had some hope of doing this without providing for the gold redemption of rupees, merely controlling the quantity of this kind of money so as to maintain a fixed relation between it and exchange on London, which would be equivalent to a fixed relation to gold. As a matter of fact they succeeded in doing this only for a short time just before they finally went over to a gold standard maintained in the regular way (See Corollary 1 above). But for that brief period we must think of India as having had a gold standard just as truly as it has now. For, by keeping exchange on London at 16 pence the rupee, they kept the rupee equal in value to $16/240$ or $1/15$ of a pound sterling, i. e. equal to $1/15$ of 113 grains of pure gold, or $7.5+$ grains; and, thus keeping the rupee equal in value to $7.5+$ grains of gold, they made $7.5+$ grains of gold their ultimate standard.

Subcorollary. *If a country having a fiat money as its standard money keeps such money interconvertible at a fixed rate with exchange on a commercial center having some metal for its ultimate standard, said country thereby makes said metal its ultimate standard.*

Thus, in the Philippines at the present time the govern-

ment, by keeping the standard money—overrated silver pesos—interconvertible with exchange on New York at about 2 pesos to the dollar, thereby insures that these silver pesos shall at all times have substantially the same value as one-half dollar, i. e. as 12.9 grains of standard gold. This action therefore makes 12.9 grains of gold the ultimate monetary standard of the Philippines.

Corollary 3. *If, in a country having for its standard money a fiat note or coin, such action is intentionally taken that the price of a certain metal on the open market is kept constant, that metal is thereby made the ultimate standard of the system.*

To illustrate, if between 1862 and 1876, when the United States had irredeemable notes as its standard money and gold was daily bought and sold like wheat, the government had intentionally so managed matters as to keep the price of gold at, say, \$1.20 all the time, then gold would really have been the ultimate standard. This does not mean that the standard would have been the same as now, i. e. 25.8 grains of gold. It would really have been a smaller quantity of gold, approximately 20.2 grains.

Corollary 4. *If, in a country having as its standard money a fiat note or coin, such action is intentionally taken that the average price of a certain list of goods is kept constant, such list of goods, or some fractional part thereof, is thereby made the ultimate standard of the system.*

Thus, let us suppose that a list of goods is drawn up, including a certain amount of coal, a certain amount of flour, a certain amount of beef, and so on; that the sum of the prices of these goods is just \$100 at a given time; and that we agree to make one one-hundredth part of this bill our standard, i. e. to cause the value of our unit, one dollar, to be determined by one one-hundredth part of the value of the bill of goods. Now, if, whenever the total value of the bill rises, say to \$105, we so manipulate things as to bring it back immediately to \$100; and, whenever the

total value falls, say to \$95, we so manipulate things as to bring it back immediately to \$100, then we shall thereby keep one dollar constantly worth the same as one one-hundredth part of the total bill, and so shall make one one-hundredth part of the total bill our ultimate standard.

Principle 8. *If the standard money is not kept constantly equal in value to a fixed quantity of some commodity or group of commodities outside itself, but varies in value independently of the variations of any other object, then such standard money is itself the ultimate standard of the system.*

Thus, between 1862 and 1879, the United States had as its standard money the treasury note. Gold and silver were commodities, bought and sold like wheat or cotton. Bank notes and checks were convertible into treasury notes and so had their value determined by these notes. In all ordinary transactions the meaning of the dollar was fixed by these notes. But, not only were treasury notes the standard money, further, there was nothing outside themselves to fix their value. They were not convertible into gold or anything else; they constantly fluctuated in value as compared with anything else. This kind of money, therefore, must have been, in respect to its value, self-determined. Thus, that thing which, under the circumstances, was standard money, was at the same time independent in value of everything else, was absolutely self-dependent. It must, therefore, have been both standard money and the ultimate standard of the monetary system.

PROBLEMS.

1. "In 1830 the ultimate monetary standard of the United States was silver." (1) What does that mean? (2) Just what amount of standard silver constituted the standard?

2. What do we mean by saying that standard money is the immediate monetary standard?

3. Silver dollars are a universal and unlimited legal tender as much as gold coin. Is it not then just as proper to call them standard money?

4. What is standard money in the Philippines?

5. In the United States in 1870, gold coin was worth \$1.21 per dollar; silver coin, \$1.23; and legal tender treasury notes, \$1.00. Which one, if any, must have been standard money?

6. For several weeks during the panic of 1837 coined money of both silver and gold was at a premium of 2 to 4 per cent; while bank notes were at par. (1) What must have been standard money? (2) Can you explain the facts?

7. Add to the 5th problem that national bank notes were also at par, and were redeemable in treasury notes. Is the answer the same as before? Explain.

8. During the third quarter of the 19th century, Austria had a circulation consisting mostly of legal tender notes, her silver coins being at a premium on account of the suspension of specie payments on the notes. By 1879, however, the value of silver bullion had fallen so far that the premium on silver coins disappeared. The government then suspended the further coinage of silver, intending probably to follow the example of those nations which had already adopted a gold standard. As a result silver coin ceased falling; and for the next decade silver and notes were both at par, i. e. were worth 100 cents on the dollar. Which should we think of as being standard money? Answer: legal tender notes. Explain.

9. In the United States in 1830 both silver and gold were freely coined at a ratio of 15 to 1. The market ratio being at the same time 15.8 to 1, which metal did our mint underrate? Explain carefully.

10. In 1830 the French mint ratio was 15.5 to 1. Which metal did it overrate? Explain.

11. In 1834 we changed our mint ratio to 15.98 to 1, the market ratio being 15.73 to 1. Which metal did we underrate?

12. What is meant by saying that our mint ratio was 15.98 to 1?

13. What ratio do we use in making silver dollars? silver quarters?

14. In 1855 the circulation of the United States consisted of gold coins worth \$1.00 per dollar, silver dollars worth \$1.03 per dollar, fractional coins worth \$1.00 per dollar, and bank notes ranging from par downwards. What must have been standard money? What was the ultimate standard?

15. In 1873 France had a bimetallic system; but, when the fall in silver threatened to expel the gold, she restricted the coinage of silver with the result that silver coins remained at par with gold. What thereupon became the standard? Explain.

16. In 1853 France had a bimetallic system with a mint ratio of 15.5 to 1, while the market ratio was 15.33 to 1. What must have been the standard? Explain.

17. From a student's answer to Problem 14. "Gold was the standard. This ratio overvalued silver and drove it out of circulation. At that time a silver dollar was worth about \$1.02 in gold." Point out mistakes.

18. Are Bank of England notes legal tender? Bank of France notes? Bank of Germany notes? National bank notes of the United States?

19. Suppose that the Imperial Bank of Germany should suspend gold payments on its notes, thus bringing about a difference in value between them and gold, would this show in a discount on the notes or a premium on gold? Is there any reason for thinking that it might turn out the other way?

20. In 1857 there appeared a difference in value between gold coin and practically all bank notes, and this

difference showed in a premium on gold; though in those days such a difference usually showed in a discount on notes. How can you explain this exception?

21. Supposing that in 1905 Mexico had simply suspended the free coinage of silver making no effort to regulate further the value of silver coin, (1) what under those conditions would have been her ultimate monetary standard? (2) Suppose that going further she had so managed things as to keep exchange on New York all the time at 2 pesos per dollar; what then would have been the ultimate standard? (3) Would standard money be any different in the two cases?

22. What is the ratio between silver and gold used in coining Philippine pesos at the present time? Does it overrate silver more or less than our silver dollar ratio?

23. How is there any point in talking about the Philippine ratio, seeing that they have *only silver* coin?

24. Let us suppose that in the United States in 1830 gold coin was worth five cents on the dollar more than silver coin, and silver coin two cents more than bank notes. What in such case must have been the nominal rating of each of the three different moneys?

25. In the United States in 1825 the mint ratio between gold and silver was 15 to 1, while the market ratio was 15.7 to 1. Which metal was overrated? Explain.

26. In 1873 the market price of standard gold in the United States was about \$21.02. By 1896 its value had risen, say, forty per cent, yet its price had fallen to \$18.60. How could this be?

27. In the United States at the present time (August, 1903) we have silver dollars worth in exchange \$1.00, but only 43 cents as bullion, treasury notes and bank notes each worth in exchange \$1.00, and gold coin worth \$1.00 both in exchange and as bullion. What is our standard money? What is our monetary standard? Explain.

28. If the Philippine government were to maintain ex-

change on New York at \$.50 precisely, what would thereby be made their monetary standard?

29. Could we, without any change in our laws, go to a silver bullion standard? Explain.

30. How could we go to a silver dollar standard without any change in our laws?

31. "In the United States in 1827 the actual standard was silver, since gold money was out of circulation." Is the reason given a good one?

CHAPTER VI.

THE NATURAL LAWS REGULATING CHANGES IN THE VALUE OF MONEY.

"Yesterday morning in Chicago wheat sold at \$1.50, just 50 cents higher than the price twelve months ago." Our first thought, on reading an item of this sort, is that, within a single year, the real value of wheat, the estimate which men put upon it, has increased by 50 per cent. Probably something has occurred to increase the demand for wheat—perhaps its more extended use as food in some part of the world; or something has occurred to cause a falling off of the market supply—say, a failure of the Argentine crop. Anyhow *the cause of the change is in wheat*. Its value has been raised by changed conditions. Such, I say, is our first thought; and, in the great majority of cases, this way of interpreting the fact would be quite right. But it is always possible that we have been mistaken; and a little further consideration will show us how this might be.

Let us suppose that, turning our attention to goods other than wheat, such as apples, cotton cloth, shoes, and so on, we discover that wheat is not the only thing which has advanced in price, that almost everything has risen about the same amount. In that case, surely, the thought would come to us that probably it is not the wheat at all which has changed, but rather the money. Perhaps, since the date when wheat was \$1.00, the country has changed to a new standard, say 550 grains of silver worth about two-thirds as much as the present standard. In that case, the prices of things would naturally have advanced about one-half, since the measuring unit would be a third smaller; just as the contents of a cask holding 100 gallons would increase to 150 gallons, if the gallon measure were made a third smaller than it now is. Or we might suppose that

instead of there having been made such a change from the old standard to a cheaper one, the value of the old standard had fallen off; that, because of excessive production gold had come to be worth a third less than formerly. This change in conditions, like the one just considered, would show in a fifty per cent advance in prices generally. It is thus evident that there may be changes, not only in the value of goods, but also in the value of that money in which the values of goods are measured. Further, the student will doubtless be ready to believe that such changes in the value of money are likely to be of great practical importance. If money suddenly and greatly falls in value, i. e. if prices rise, all persons dependent on fixed money incomes will lose heavily. On the other hand, if money suddenly and greatly rises in value, i. e., if prices fall, persons having fixed money payments to make will find their burdens greatly increased.* Accordingly, a very important task for us as students of money must be the investigation of those natural laws which regulate changes in the value of money; and this task we will now undertake.

1. THE NATURE OF CHANGES IN THE VALUE OF MONEY, AND THE DIFFERENT KINDS.

First, we must set about getting a more definite notion as to the precise nature of these changes in the value† of mon-

* Provided they depend on the selling of goods to get their incomes.

† The student must be careful not to confuse changes in the *value* of money with changes in its *price*. Since the money unit is the measure in which prices are stated, the price of the money unit can never change within the territory where it holds the place of measuring unit. As measured in itself, no object can change in value or length or weight or any other particular. Thus, the price of a dollar must always be a dollar, i. e., itself. Understood rightly, this is of course self-evident. A dollar is worth a dollar. A foot is a foot long. A yard is a yard long. A pound weighs a pound. But though the *price* of money can not change, its *value* can, as we have already seen, i. e., we may value money less highly as compared with other things than we did last year or ten years ago.

ey. Recalling for a moment the discussion contained in the preceding paragraph, we note that the reason there given for thinking that the rise in the price of wheat was not really a change in wheat but rather a change in money, is that *wheat was not alone in rising*,—that the prices of most other goods had risen. This is simply a special application of a rule of interpretation which we follow in every field. Whenever a great many things show a similar change in their relation to a single other thing, it is natural to assume that some cause has modified the one thing, rather than that similar causes have simultaneously modified all the other things. For example, suppose we are sitting in a railway car looking out of the window, and that we see a span of horses and a wagon which seem to be moving past us, while the telegraph poles, the fences, the trees, and everything else seem to be at rest. Naturally, we assume that all these other things, including our car, *are* at rest, that only the horses and wagon are in motion. But, change the hypothesis; suppose that the horses and wagon, the telegraph poles, the fences, the trees, and everything else seem to be moving past us at the same rate of speed. Our interpretation of things is now very different. At once we conclude that it is our car which is doing the moving, that all the other objects are at rest. It is thus perfectly natural, when we find the values of goods in general, measured in money, moving in the same direction, to infer that in reality the value of money is moving in the opposite direction; to interpret a general rise in prices as a fall in money, and a general fall in prices as a rise in money.

But, while it is perfectly natural, and also customary, to interpret every change in general prices as an opposite change in the value of money, it is not entirely proper to do so without some further explanations. If we mean primarily by value what underlies the popular use of the word and has come to have general vogue among economists as *one* important meaning, viz., the state or property of being

prized—being recognized as significant for our welfare,*—it is entirely possible to have a general change in prices which is *not* a change in the value of money, but only a change in the value of goods. Thus, it is entirely conceivable that 25.8 grains of gold have a certain recognized significance to the welfare of men which did not change in the least between 1870 and 1890, while the significance of cotton cloth, steel rails, plows, reapers, and goods generally, declined very greatly because of cheapened productive processes. Supposing such a statement to express the facts, it would be quite proper to say that the value (subjective) of gold remained stationary during the period named, while the values (subjective) of goods in general fell. Nevertheless, this change would have shown itself in a fall of general prices which we commonly interpret as a rise in money. That is, a downward movement of prices extending to practically all goods might mean, just what it says on its face, that the values of goods—having in mind subjective values—have fallen, while that of money is unchanged. So, an upward movement of general prices might mean just what it says on its face, that the values of goods generally have risen, while that of money is unchanged.

To make the point more definite, if we continue to mean by value, *subjective* value, a fall in prices would mean a rise in money only on condition that the cause of the change was something connected with money which had raised our estimate of its real significance, thus making our measuring unit larger and, so, reducing the nominal value of the other things measured in it. Thus, it might be that gold had grown very scarce, and, therefore, the significance of the least important portions of the stock, which determine its value, had greatly increased. On the other hand, a rise in prices would really mean a fall in money, only on condition that the cause of the change was

* Called *subjective* value.

something connected with money which had lowered our estimate of its real significance, thus making our measuring unit smaller and, so, enlarging the nominal value of the other things measured in it. Thus, in the first weeks of 1865, as the Southern Confederacy came nearer and nearer the hour of total collapse, and, so, the paper money which it had issued approached nearer and nearer the day when all possibility of its redemption in real money would finally disappear, its real value,—the significance which attached to it in men's minds—rapidly fell off, and, of course, the values of all things, measured in it, just as rapidly rose.

We thus find it necessary, at least theoretically, to distinguish among changes in the general price level, (1) those which for the moment we shall designate as changes in the value of goods, and (2) those which for the moment will be called changes in the value of money, or (1) apparent and (2) real changes in the value of money. But this distinction of apparent and real changes in the value of money is not only of theoretic significance; it has also great practical importance. For example, let us suppose that a sharp rise in general prices takes place, working much loss to persons having fixed money claims, salaries, interest, etc. If now, the change is due to the fact that the government has debased the currency—has made one dollar into two or resorted to the issue of irredeemable paper,—every one feels that a wrong has been done which only the most evident public necessity could excuse. But, on the other hand, if the rise in prices has grown out of the fact that natural resources are becoming exhausted, or the fact that from any cause the cost of production has increased, we say at once that no injustice has been done,—that humanity in general has simply experienced a great misfortune, which creditors, salaried persons and so on must bear along with the rest.

In like manner, when prices fall and so work injury to those who are burdened with fixed money obligations, the attitude of society toward the matter depends entirely on

the *cause*. If we have suddenly changed from a silver standard of 412.5 grains to a gold standard of 25.8 grains worth more than twice as much as the silver, and so have brought about a sudden drop in prices, the wrong is evident and great, only to be excused by public necessity of the clearest sort. But, if the fall in prices is due to diminished cost of production, the case is very different. The debtor whose products fall because the cost to those producers who determine the price has fallen, will suffer some loss; but it is a loss which society can not hope to eliminate. It is one of the inevitable accidents of industry, just such a one as the injury to certain classes of workmen from the introduction of machinery or to certain canals from the construction of particular railroads.

From the preceding paragraphs, we have learned that it is both theoretically and practically necessary to distinguish, among changes in the general price level, those which are only *apparent*, from those which are *real*, changes in the value of money,—those which are changes in the value of goods from those which are changes in the value of money. But, though this distinction is real and important, there are reasons for expressing it in another way, which reasons we must now explain. In bringing out the distinction, we started from one particular meaning of value,—the state or property of being prized, or being recognized as significant to human welfare. But, while this seems to many of us the ultimate, root, idea of value, we commonly attach to the word in economic discussion a somewhat different meaning. The fact that things are prized by us will lead us to behave toward them in ways different from our behavior toward other things. In particular, it will lead us to offer other prized things in exchange for them. They consequently present themselves to our mind as possessing the *power or property of commanding in exchange other things*. And it is this power

or property which we commonly have in mind when we characterize them as possessing value; though if we are very anxious to avoid ambiguity we call this kind of value *exchange* value.

Now, it is obvious that, when value is used in this sense, a change in the value of either one of two objects compared, means an opposite change in the other. Thus, if the value of wheat as expressed in money has risen from \$1 to \$1.50, the value of money expressed in wheat has fallen from one bushel to two-thirds of a bushel. The phenomenon can not be described as a rise in wheat but not a fall in money, nor as a fall in money but not a rise in wheat; for it is both at once. A rise in wheat *is* a fall in money, looked at from the wheat end. A fall in money *is* a rise in wheat, looked at from the money end. To say that Johnny's end of the see-saw has gone up is to say that Charlie's end has gone down. To say that Charlie's has gone down is to say that Johnny's has gone up.* Accordingly, all advances in the prices of goods in general are commonly treated as declines in the value of money. All declines in the prices of goods in general are treated as advances in the value of money. That is, all changes in the general level of prices are treated as opposite changes in the value of money.

We have just learned from the last paragraph that it is usual in our day to deny the propriety of calling some changes in the general level of prices changes in the value of money, while others are said to be merely changes in the value of goods. All changes in the price level are treated as necessarily changes in both money and goods at the same time. We must not, however, suppose that this usage

* This is just as true of the relations between money and a single commodity, like wheat, as of the relation between money and all commodities. But usage limits its application to the second relation.

involves our ignoring the distinction brought out between the two kinds of changes in the general price level. The reality and importance of that distinction is quite generally admitted, though the propriety of the older method of expressing it is denied. Changes in the price level may be either (1) those which are due to causes in some way connected with goods or (2) those which are due to causes in some way connected with money. If we must call both of these, changes in the value of money, we ought at least to prefix to the phrase some qualifying adjectives which will indicate the difference between the two sorts. While not altogether satisfied with the choice, I shall, for want of better terms, designate changes in the price level due to causes connected with goods as *relative* changes in the value of money, and changes in the price level due to causes connected with money as *absolute* changes in the value of money. Relative changes in money are of course absolute changes in goods, while absolute changes in money are relative changes in goods. In general, our study of the matter is concerned with *absolute* changes in money. These are what the public usually have in mind when speaking of changes in the value of money; and these are the changes which are of most importance and which it is reasonable to try to avoid. It will, however, be desirable to set forth one or two principles bearing on *relative* changes, if for no other reason than to hinder the student from confusing them with absolute changes.

We have seen that our clue to the course taken by the value of money is the level of general prices. An upward or downward movement of prices is recognized as a downward or upward movement in either the relative or absolute value of money. Accordingly, it is quite important to keep track in some way of the general course of prices; and much study and time has been given to

this matter. The general plan is to compute what are known as index numbers. First, it must be decided what commodities are going to be taken into account, some statisticians using a few only, while others try to follow the course of a large number, even several hundred. Secondly, a particular year or group of years must be selected to furnish the starting point for computations; i. e., the price of that year is treated as the unit, and all variations are reduced to percentages of that unit. For example, suppose 1860 were chosen as the base year, and we were computing the index numbers of wool. At that date, the Boston price of Ohio medium was $47\frac{1}{2}$ cents. This would be treated as 1 or 100 per cent, and the price of 1861, $38\frac{3}{4}$, would be divided by $47\frac{1}{2}$ which would give us 81 per cent.

The third step is to compute index numbers for each of the commodities entering into the case. We have just seen how this would be done in the case of wool. Carrying the process a few years further, we should have a table like this:

<i>Prices.</i>		<i>Index Numbers.</i>	
1860	$47\frac{1}{2}$ cents.	1860	100
1861	$38\frac{3}{4}$ cents.	1861	81+
1862	$50\frac{1}{2}$ cents.	1862	106+
1863	$75\frac{3}{4}$ cents.	1863	159+
1864	$87\frac{1}{2}$ cents.	1864	184+

The figures in the second column show how the price of wool for any year compares with the price of 1860; but of course they do not show the actual price of any year. That is, the table is one of *relative* prices.

The final step is to make an average of the index number series for all the commodities involved. Thus supposing that we have computed series, like this wool series, for wheat, cotton, nails, lumber, etc., etc., up to 243 commodities. If, now, we were to make a simple average

of all these different series, we should have something like the following:*

1860	100.
1861	100.6
1862	117.8
1863	148.6
1864	190.5
1865	216.8

This table would show us the course of general prices during these years, the average of any year as compared with that of 1860.

With respect to the degree of usefulness attaching to such index numbers, there is still a good deal of controversy. Much can be said on both sides. We are doubtless a long way short of perfection. But there can be little question that these numbers are after all of considerable value. They show the *direction* of change pretty certainly, and the *degree* with sufficient accuracy for *some* purposes anyhow. They do not, however, give us material aid in distinguishing between those changes in prices which are only relative changes in the value of money, and those which are absolute ones. When this is important, we are obliged to go into elaborate studies to determine whether the chief causes of the change are connected with goods or with money.

II. PRINCIPLES GOVERNING MERELY RELATIVE CHANGES IN THE VALUE OF MONEY.

Having considered the nature of changes in the value of money, the different kinds which occur, and the methods by which actual changes are ascertained, we will now undertake to set forth the natural laws regulating these changes. And first, we will dispose of the most important cases of merely *relative* changes in money, i. e., absolute changes in the values of *goods*. Of these, the first to

* The changes are very great, as the period chosen took in the reign of paper money in the United States.

command attention are certain rapid upward and downward price-movements, which are often mistaken for real changes in money, but which actually owe their existence to sudden and great changes in the demand for, and the supply of, goods in general, which changes in demand or supply are not caused by changes in money.

Doubtless the student is already aware, even if he has given little attention to political economy, that the wholesale price of any particular commodity like wheat, for example, is immediately influenced through changes in supply and demand. If the demand increases, price tends to rise; if demand diminishes, price falls. If supply increases, price falls; if supply diminishes, price rises. More compactly stated, price varies directly as demand, inversely as supply. But, if this putting of the matter is true for a single commodity like wheat or wool or cotton, is it not also true for commodities in general? Surely it is. Any change in the demand for goods in general tends to cause a like, though not proportional, change in the level of prices; any change in the supply of goods in general tends to cause an opposite, though not proportional, change in the level of prices.

Now, changes in demand or supply, of the kind just supposed, i. e., changes in *general* demand or *general* supply, are not naturally to be looked for in ordinary times. Commonly, if people take to buying a particular kind of goods more than they have been buying it in the past, they will usually buy *other* kinds of goods *less* than in the past. So, if more of a certain kind of goods are brought on the market than formerly, less of other kinds will be brought on. But this is not always true. There are times when demand rises and supply falls off, or supply rises and demand falls off, *all along the line*. The rising of demand and falling off of supply marks the boom or inflation period of an industrial cycle. The rising of supply and the falling off of demand marks the collapse of such a boom. In

the boom period, every one has confidence in business prospects, generally *undue* confidence. Each thinks prices are going higher, and so all are disposed to buy, few disposed to sell. As a result, prices keep mounting as if they could not stop. When collapse comes, the conditions are reversed. All wish to sell, few are willing to buy. Prices go down, down, as if they could never find bottom. Price movements of the sort here considered are never universal; still they are likely to affect so many articles, and those articles so much, that the average of prices shows a corresponding change; i. e., the value of money shows an apparent change in the contrary direction. As confidence increases and business booms, money falls in value. As confidence declines and business stagnates, money rises in value. But manifestly such changes in the value of money must be thought of as *relative* rather than absolute. The causes are outside money. Prices go up during the boom, not because something has happened to money to make it cheaper, but because goods have grown more valuable in men's minds. So, when collapse comes and prices fall, this is not because something has happened to money to make it dearer, but because circumstances have made goods less valuable in men's minds. Putting the principle just brought out into a formal statement, we have the following:

Principle I. *Considerable fluctuations in the relative value of money take place in response to changes in business confidence, each of these fluctuations showing a direction opposite to that of the change in business confidence which produces it.*

We have just seen how relative changes in the value of money grow out of changes in business confidence acting on the supply of, and the demand for, goods in general. A second cause tending to modify the absolute value of goods, i. e., the relative value of money, is a change in

cost of production. It is a familiar fact of every day life that, with respect to many products at least, a change in cost of production greatly influences price. If cheapened means of transportation make it possible to put Argentine wheat on the markets of Europe at 10 cents less than formerly, a fall in the price of wheat is almost inevitable. If new inventions make it possible to produce steel for \$20 a ton rather than \$100, the price is almost certain to show a corresponding fall. Broadly speaking, price follows cost. Many economists insist that, away down deep, utility is the really decisive factor, that somewhere there is a product of steel, the utility of which determines the value of all steel; but they admit that, for all other products of steel, cost is the determinant of price; that is, for practical purposes, we can safely act as if cost were the only thing to be taken into account. But, if the price of wheat or the price of steel, taken by itself, can be changed by changes in cost, it is surely possible to have a change in average prices due to the same cause. Not a few great inventions affect the cost of many different products. Steam power in factories, steam transportation, cheap processes for making steel, and so on, all these influence many industries. It is therefore quite natural to expect, from such inventions, changes of value so great, and in so many articles, that the average of prices will be lowered. Such a fall in the average of prices will of course be an apparent rise in money. But, as in the preceding case, this apparent rise in money will be only a relative, not an absolute, change. The cause of the change is not in money but in goods. We value money no more, but goods less. From these considerations we obtain:

Principle 2. *Considerable fluctuations in the relative value of money take place in response to changes in the cost of producing commodities, each of these fluctuations showing a direction opposite to that of the change in cost by which it is caused.*

III. PRINCIPLES GOVERNING ABSOLUTE CHANGES IN THE
VALUE OF MONEY.

The two theorems already laid down dispose of the most important cases of merely relative changes in the value of money. We now come to the real task of this chapter, the presentation of those principles which govern *absolute* changes in the value of money, that is, changes due to causes in some way connected with money.

In the chapter devoted to an account of the typical monetary system of our day, it was pointed out that, in fixing the value of the money unit, the monetary standard plays a rôle almost exactly analogous to that played by the standard of liquid measure in fixing the capacity of the unit of liquid measure. In the United States, just as 8.33 pounds of pure water determines the capacity of a gallon measure, so 25.8 grains of standard gold determines the value of one dollar. But, in the case of liquid mensuration, it is evident that changes in the capacity of the unit take place when, and only when, a *change in the standard* takes place. Thus, if a statute were to be passed changing the standard of liquid measure from 8.33 pounds of water to 4.165 pounds of water, the capacity of a standard gallon measure would be exactly cut in half, while the volume of every quantity of liquid measured in gallons and the capacity of every existing vessel would be exactly doubled. All persons who had occasion to reckon in gallons would promptly adjust their computations to the changed standard. In measuring molasses or oil, the grocer would call the amount of liquid necessary to fill his old gallon measure two gallons. The petroleum well which formerly flowed 100 barrels a day would now flow 200 barrels. The cistern which formerly held 50 barrels would now hold 100 barrels. And so on.

Further, it is plain that, in this case of liquid measure, unless such a change in the standard were made, no material

alteration in the capacity of the gallon, or quart, or pint could take place. Barring inappreciable changes due to differences of temperature, all gallon measures based on *the same legal gallon standard* will hold the same amount of liquid at all times, and a given volume of liquid will always be expressed in the same number of gallons. In short, in the case of the unit of liquid measures, all we need to answer to the question, what regulates changes in the capacity of that unit? is this: *all changes in the unit must be effected by conscious readjustment of that unit to a changed standard behind it.* But, if this is the solution of our problem for liquid measure and if the relation of 8.33 pounds of water to the unit of liquid measure is the same as the relation of 25.8 grains of gold to the unit of money, is not the solution of our problem for money substantially the same? Shall we not say that all changes in the value of the money unit must be effected by a conscious readjustment of that unit to a changed standard behind it? Doubtless, we should have to go somewhat further; since the value of the same standard is subject to change, and we should want to know the principle under which change takes place. But our natural starting point, at least, would seem to be that all changes must immediately come from *a readjustment of the money unit to a change in the standard.*

Now, the preceding account of the matter has much plausibility; and in fact is in a general way supported by a very eminent living authority* upon money. Before we get through, however, we shall find it necessary to place such qualifications upon the principle that in the sequel it will seem to play a relatively small part in determining the value of money. Nevertheless, it must be recognized as of significance in not a few cases; and hence forms our third principle.

*Professor Laughlin

Principle 3. *Whenever the conditions are such that it is possible for the general public to have fairly conclusive evidence that a change in the value of the standard has taken place, and to have a fairly trustworthy index of the extent of said change, there will almost certainly follow with measurable promptness a direct readjustment of general prices, i. e., of the value of money, to the changed standard.*

The argument for this principle is most naturally made in connection with the different cases which arise under it.

Case 1. A formal change from a standard consisting of a certain amount of one metal to one consisting of a different amount of the same metal.

This is a case which could hardly arise in any decently governed modern country; but it is a case which naturally comes first theoretically. Suppose that the government of the United States were to decide to substitute for its present standard, 25.8 grains of gold, one just half as large—12.9 grains. Surely no one can doubt that there would at once be a prompt readjustment of prices to the cheaper unit. That is, every grocer would hasten to mark the sack of flour which had sold at 65 cents, up to \$1.30, the sugar for which he formerly got 7 cents, up to 14, and so on. Similarly, drygoods dealers, hardware men, and merchants generally would promptly double all their prices. No one would think of waiting till the result was worked out by natural processes. Each would see that readjustment was effected without delay.

Case 2. A formal change from a standard of one metal to a standard of another metal different in value.

Let us suppose that at the present time, when 430 grains of silver is worth about half as much as 25.8 grains of gold, the United States should decide to make 430 grains of silver its standard instead of 25.8 grains of gold. What would happen to the value of the dollar? Would it continue to buy as much as now? Would the prices of goods

remain as low as at present? Surely not. Supposing that silver remained at its present value in the markets of the world, i. e., that 430 grains continued to be worth about 50 cents in gold, there would surely be an immediate advance in prices and wages all along the line. A modern business community, alert, informed, prompt, would not wait to see how things were going to turn out; but would at once readjust their affairs to the new standard.

Case 3. When the standard of any country is a metal which is a mere commodity in some great world market with which the said country maintains intimate trade relations.

Until quite recently, this case was more or less fully realized in several countries which still maintained the silver standard. Of these the most important was India; and experience there confirmed the truth of our principle. At that time as now, silver was, in London and other European centers, a mere commodity bought and sold like cotton or wheat. Naturally, it showed many fluctuations in price; and every considerable fluctuation was followed by an opposite change in Indian prices. When silver fell, Indian prices rose; when silver rose, Indian prices fell. That is, the value of Indian money was quickly readjusted to changes in the world price of silver. Advertisements of goods in Indian newspapers commonly contained a caution to the effect that the prices given were liable to revision if any change took place in the rate of exchange on London*—the rate of exchange on London being a trustworthy criterion as to the world price of silver. This result was of course just what we should have expected. If silver fell, the value of rupees in pence would fall, it would take more of them to buy the goods imported from Europe, and so the dealer would have to recoup himself by charging

* So said the Rev. Dr. Craven, a returned missionary, in a Chicago paper in 1896.

more for the goods. But, if dealers in imported goods charged more, other people would have to do the same, or lose in the long run. Finally, if dealers generally charged more, laborers would have to do the same. Thus, a rise in prices begun in the import trade would be more or less rapidly extended all along the line.*

Case 4. When standard money consists of irredeemable notes, changes in the value of which, as measured in the metal which was formerly standard, can be followed in the market price of said metal.

This case was constantly illustrated in the American Civil War. Gold was at that time out of circulation and was speculated in just as cotton, wheat, copper, etc., are now. Great fluctuations in its price, measured in notes, took place from week to week, from day to day, and even from hour to hour. But, of course, every change in gold meant an opposite change in notes; and naturally every seller of goods hastened to change his prices so as to keep pace with the changes in the money which he received for his goods. That is, if notes fell (gold rose), the dealer advanced his prices. If notes rose, he lowered his prices. Doubtless, it would be wrong to represent prices as following promptly and precisely the changes in the value of money. But the correspondence was close enough to establish our theorem.

Case 5. When standard money consists of irredeemable notes, fluctuations in the value of which, as measured in the metal which forms the standard of the great world markets, can be followed in the fluctuations in the rate of exchange on those markets.

The rate of exchange, as we have already learned, is the price paid in one country for the right to claim money in another country. Thus, the rate of exchange on London in New York is the price which has to be paid in New

* This paragraph overstates the case as respects the promptness and completeness of the movement.

York in dollars for the right to claim a pound sterling in London. Now, supposing our money unchanged in value, this price for London exchange has only a very limited range within which it can fluctuate, viz., \$4.835 to \$4.895. If, then, we should note in the newspaper an item that exchange on London was at \$8, we should know that the value of our money had fallen greatly or that the value of English money had risen greatly. And, if England continued to use gold as before while we had given up gold and were on a paper basis, we should be quite certain that our money had fallen in value. In consequence, dealers would hasten to mark their goods with higher prices, i. e., the value of our paper as money would be adjusted to its value in gold. In our own experience with paper, we paid little attention to this index of the value of paper, because we had an even better one in the market price of gold. But, frequently, countries having irredeemable paper as their standard do not maintain a gold market, in which case they treat the fluctuations of London exchange as sure indices of changes in the value of their notes, and readjust their prices accordingly.

In introducing the last theorem, I remarked that in the end we should find that in a typical modern system the "readjustment" principle plays a relatively unimportant rôle in determining the value of money. I must now explain why this is so. In general, the reason is to be found in the fact that, in a typical modern system, *we do not usually have any way of ascertaining a change in the value of the ultimate standard, independently of changes in the value of money.* There is no way of discovering a rise of gold except in the fall of prices, i. e., in a rise of money. That this is bound to be the case is easily shown.

(1) First, it is plain that, so long as gold is the standard in a given country, we can not ascertain any change in its value from a change in its *price within that*

country; for the price of the actual ultimate standard is by definition unchanging. It fixes the value of the money unit, and, therefore, a given quantity of it, measured in that unit, must always have the same value. As long as 25.8 grains of gold is our standard, the price of an ounce of gold must be the quotient of 480 divided by 25.8, i. e., \$18.60+.

(2) In the second place, outside a few mining districts, there is no chance to ascertain any change in the value of the ultimate standard through an alteration in the exchange ratio between goods and the standard metal as a metal; for direct exchanges between these do not take place. Wheat, corn, pork, steel, etc., are not being exchanged for grains or ounces of gold, save in a few isolated districts, but rather for dollars and cents. If these goods fall, they fall in terms of money, which of course leads us to say that gold has risen. But we know directly only that money has risen; the rising of *gold* is an inference from the rising of money, combined with our previous knowledge that gold and money can not help moving together.

(3) In the third place, we have no way of ascertaining a change in the value of the ordinary standard, i. e., gold, from a change in its price in the market of countries where it is not the standard; for there is no such market which has any weight in commercial affairs. It is true that in some countries having a paper standard, gold is openly bought or sold, and its price shows many fluctuations. But, then, these fluctuations are accepted by no one as indicating changes in the value of gold. Instead, every one looks on them as inverse changes in the value of the paper standard. They, therefore, furnish no clue by which dealers in gold countries could, or at least would, be guided in trying to readjust the level of prices.

(4) Finally, we have no way of ascertaining changes in the value of the world standard, gold, from fluctuations in the rate of exchange on countries using some other

standard. For, in this case as in the last, such fluctuations in the rate of exchange will universally be accepted as indicating changes, not in the value of gold, but in the value of the standard of the outside country. If that outside standard is paper, such a way of looking at the matter is of course inevitable and probably sound; since it is manifestly more likely that a paper money confined to Argentina is changing than that all the gold of the world, whether in money or bullion, is changing. If the outside standard is silver, the inference from a fluctuation in the rate of exchange that silver is, let us say, falling rather than gold rising is doubtless less certainly correct than the corresponding inference in the case of paper. But, whether correct or not—and the presumption is in its favor—, this inference is the one inevitably made in gold countries; for, when a change takes place in the value ratio between the standards of all the great commercial nations and that of two or three minor countries, men naturally attribute the change to conditions affecting the standard of the minor countries. Accordingly, it is entirely out of the question that dealers in America or England should look on a fall in the rate of exchange on China as indicating a rise in the value of gold, and, therefore, as something which calls for a readjustment of American or English prices to a lower level.

It seems pretty conclusively established from the above argument that, in the present condition of things when gold is the standard of all great commercial nations, there is substantially no chance for changing the value of money, in a country having the gold standard, by the readjustment process. Doubtless there have taken place changes in the value of money due to causes which would naturally tend to change the value of gold, the metal. But these and all other changes must have been effected by some process other than the one according to which the value of the ultimate standard is first changed, and then the value of

money consciously adjusted to it. We must now try to ascertain what is this other process.

In general, it is already clear that such a process necessarily involves a direct raising or lowering of the general level of prices. The value of money changes, only as the level of prices changes in the opposite direction. But, if changing the level of prices can not be effected by a conscious readjustment to a changed standard, it must be done through the process by which prices are automatically regulated. Now, in introducing our first principle, it was brought out that, generally speaking, price changes are automatically effected through changes in supply or demand or both, and in this way only. If the supply of goods in general increases, prices in general fall; if supply decreases, prices rise. If the demand for goods in general increases, prices in general rise; if the demand decreases, prices fall.

That *some* price changes are effected in the way described, has already appeared. They are those changes which are brought about through alteration in demand or supply by causes affecting goods rather than money; and so are merely *relative* changes in the value of money. But it is conceivable that changes in demand or supply, as respects goods in general, might be brought about by causes originating in money rather than in goods. Such changes would produce changes in the level of prices, which would be absolute changes in money because due to causes acting on money, although, superficially considered, these causes do the work by altering the demand for, or supply of, goods. Such changes would, therefore, illustrate a second process by which absolute changes may be effected. That second process would be the only possible one other than the "readjustment" process already brought out under Principle 3; since, as already remarked, conscious readjustment and automatic alteration through changes in supply or demand or both, are the only possible methods by which the general price level can be changed. If, then, it is possible

for absolute changes in money to be brought about in this way, we shall have one or more theorems embodying the principles which regulate what might be called "demand and supply" changes as distinguished from "readjustment" changes.

Now, it will not be difficult to show that changes of the sort considered do almost certainly take place, at any rate *tend* to take place. Causes primarily affecting money itself or the ultimate standard, almost certainly tend to influence the demand for, or the supply of, goods in general, and so tend, at least, to cause changes in the level of prices, which changes are by definition absolute changes in money. Thus, let us suppose that there takes place a very great increase in the output of standard metal, gold. Such an increase ought surely to lower the value of gold and, so, the value of money. But such a lowering of the value of gold must take the form of a raising of the prices of goods in general; since there can be no change in the price of gold, it being the measure in which prices are reckoned. The question then is, Would the supposed increase of gold tend to raise the prices of goods? As already explained, this result could not be effected in the case of gold, the world standard, by the "readjustment" process. If, then, it is to be effected at all, it must be because the increase in gold tends to cause an increase in the demand for goods. Does such a tendency exist? That this question must be answered in the affirmative is easily made evident.

In the first place, the tendency certainly exists and works out its natural results in gold-producing districts such as California and Australia furnished fifty years ago. For in such districts the new gold was, to no little extent, used as money at once, in its bullion form, without waiting for the coinage process; and the eager using of this new gold to buy the necessities and luxuries which the hitherto poor miners craved, naturally led to a swift advance of almost all prices, i. e., a swift fall in

gold. Doubtless the matter is by no means so simple for districts other than those where the gold is produced, nor even for the mining districts, as soon as placer mining has given way to the systematic extraction of the metal with all the apparatus of modern discovery and invention. Still, it would be hard to believe that there is no tendency for some such process to work itself out, even under present conditions. An addition of 200 million dollars worth of gold to the world's stock must surely tend to modify the gold, or money, demand for all goods other than gold, and so to modify the value of gold as measured in those goods. And we can easily imagine a way by which the result might be accomplished.

First, the new gold will, in considerable measure, become a part of the money stock. In the first instance, certainly, almost all of it is marketed into that stock; i. e., it gets as far as the great central banks or even the mints of the different countries. Doubtless a considerable part is later withdrawn by being sold to manufacturers who use it as a raw material in their several arts. But the rest is turned into coin and passes into the monetary stock of the world. But this means a corresponding enlargement of the ultimate reserves to which gold money is largely relegated. This enlargement of the ultimate reserves, in turn, leads to an expansion of bank credit, and so of general purchasing power. As a result, borrowers find it easier to get possession of such buying power. If, on other grounds, they are disposed to go into the market as buyers of wheat or cotton or iron or other goods, this increased possible control over buying power leads to an enlarged demand for these goods. But this enlarged demand will tend to raise the prices of these goods, that is, to lower the value of the gold.

In the preceding paragraph, it has been shown that an increase in the output of gold might be expected to cause a fall in the value of money, and so of gold itself, by the very roundabout process of increasing the demand for

goods in general and so raising the level of prices. The student can easily work out for himself an analogous course of reasoning to show that a decrease in the output of gold might be expected to decrease the demand for goods and so lower the prices of goods, i. e., raise the value of money. It is evident, therefore, that one might have absolute changes in the value of money,—changes having their cause in some condition affecting money itself or the ultimate standard behind money,—which were affected through changing the demand* for goods in general.

Principle 4. *The value of money tends to vary inversely, though not proportionally, as the quantity in the country or in the group of countries having the same standard.*

The argument for this theorem has already been largely anticipated, in showing that it is possible to have absolute changes in the value of money effected by the “demand and supply” process. The essence of that argument may be stated in a sentence; changes in the quantity of money tend to produce similar changes in the demand for goods which, in turn, tend to produce similar changes in the prices of goods, i. e., inverse changes in the value of money. If the volume of money greatly increases, people will have more money to spend. In spending it, they will demand more goods. More goods being demanded, prices will rise, i. e., money will fall. If the volume of money is diminished, less can be spent; fewer goods will be demanded; and prices will fall, i. e., money will rise.

To modernize the argument, it needs to be developed in a way somewhat different, though it has already been pretty well anticipated. A change in the volume of money will cause a similar change in the size of the bank reserves, which will lead to a similar change in their loans to dealers,

*By somewhat subtler reasoning it might be shown that the supposed changes in the output of gold would tend to effect the results attributed to them by influencing the *supply* of goods in a direction opposite to their influence on demand.

which will lead to a similar change in the dealers' demand for goods, which, finally, will lead to a similar change in the level of prices, i. e., an *inverse* change in the value of money.

Caution. *Under normal conditions the influence of changes in the quantity of money in general is so slight as scarcely to deserve consideration, and even the influence of changes in the quantity of standard money usually proves to be of comparatively small significance.*

That the value of money *tends* to vary inversely as quantity, assuming that sufficient emphasis is put on "tends," seems almost indisputable. Further, that cases arise wherein changes in quantity *actually* influence value, and that cases can easily be conceived wherein changes in quantity would be *the decisive factor* in determining value,—these propositions seem almost indisputable. Nevertheless, there has been much in the attitude of both the general public and of some writers on money, to give considerable justification to the too-sweeping denunciation of the "quantity" principle which has marked several recent publications.

As ordinarily understood, the quantity principle errs (1) in *ignoring* other determining factors in the level of prices, i. e., the value of money, and (2) in grossly *exaggerating* the potency of quantity to influence value. A large number of people more or less conversant with money questions look on every change in the level of prices as due to some change in the quantity of money, and expect from every change in the quantity of money a corresponding change in the level of prices. Now, it seems almost certain that the majority of the changes in the level of prices which take place from time to time have little or no connection with changes in the quantity of money, but are effected under the working of one or more of our first three principles. This is, they are merely *relative* changes in money caused by changes in business confidence, or in the cost of producing goods; or they are absolute changes in money

effected through conscious readjustment to a changed standard. On the other hand, experience gives us numberless cases of great changes in the quantity of money which have produced little or no effect on the level of prices. Accordingly, we find it necessary to reject not only the popular doctrine which assumes a constant and immediate connection between changes in quantity and changes in value, but also the more moderate opinion which treats the "quantity" principle as at least *the* regulative principle of the value of money, as compared with which none other deserves consideration. It is, therefore, necessary to append to the principle the caution given.

The argument for the caution, as just hinted, is primarily inductive. Experience shows quite conclusively that, in actual practice, the value of money exhibits little tendency to vary inversely as its quantity. Either the power of changes in quantity is very slight, or it is commonly neutralized by opposing causes. A definite and powerful tendency of value to change inversely as quantity does not exist. But not only is our caution supported by experience, it is also confirmed by reasoning. Considering the conditions present, we should naturally expect experience to turn out as it does. (1) If we are considering periods of short duration, we should expect to find the tendency of changes in the quantity of money to change the level of prices so *feeble*, as compared with other causes influencing the matter, that that tendency would be neutralized whenever those other causes were acting against it, and would signify relatively little whenever the other causes were acting with it. (2) If we are considering periods of long duration, we should expect to find the tendency of changes in the quantity of money to cause changes in the level of prices so *slow in operation* that it would be completely neutralized by other fundamental changes in conditions, or that at least the accomplishment of its work would be

delayed till the very condition causing the tendency had been reversed.

Let us develop the first case, that of short periods. Here the power of quantity to influence the level of prices, as compared with other forces present, is too feeble to be significant. For, in the first place, changes in the quantity of money constitute only a secondary, indirect, remote, cause of changes in the level of prices, and as such are for short periods necessarily feebler than primary or immediate causes. As already brought out, the only way in which changes in the quantity of money can work changes in the level of prices is by their influence on the *demand* for goods in general. But the least reflection will convince us that the primary cause influencing our demand for goods in general is, not the quantity of money available, but the *desire to possess* those goods. Now, the desire for goods which is felt by those people whose desire, in this matter of general prices, is significant, i. e., dealers, is manifestly based on the expectation of profit. If any dealer thinks large profits are to be made in buying his particular line of goods, he is eager to buy; if he does not think such profits in sight, he declines to buy. That is, changes in demand primarily depend on changes in the dealer's estimate of business prospects. Doubtless, he can not buy unless he has other wealth which he can sell or hypothecate in order to get *buying power*. So that *available buying power* must be looked on as an essential condition of buying. But, after all, the primary cause of the buying is, not the possession of the buying power, but the inclination to buy, due to supposed prospects of profit.*

To illustrate this point by analogy, I do not conclude to move to a new residence because Godfrey's moving van happens to be in front of my door. If I decide to move, it

*I seem to forget that abundance of buying power will increase the chances of profit. But see the next paragraph but one.

is because there is *some material reason* for preferring a new residence. Unless this is the case, the presence of the van will have no weight in the matter. Doubtless, if I do move, I shall need a van or some other vehicle; and, of course, circumstances might arise when an almost completed decision to move is quite ripened by the convenient presence of the van. But, obviously, the availability of the van is *not a primary cause* in the case.

Now, I would not deny that this analogy unduly minimizes the significance of money. Changes in the availability of buying power have more relation to our demand for goods than changes in the availability of vans have to our moving into a new residence. When I am inclined to buy wheat because I really want it, but am hesitating because the prospective profit is not quite large enough to turn the scale, a drop in the rate of discount due to excessive bank reserves may tip the beam, by making the transaction a shade more profitable. But, after all, in this case, as in that of the moving householder, it must be presumed that there already exists a more real and ultimate cause of my action, viz., a desire to possess the wheat. Without this desire, the wheat will not be bought, however full the reserves of banks, however low the rate of discount. If, at the time when money is abundant, there is ample reason for buying goods, all right. But if, on the contrary, dealers have no confidence in the future and prefer to stay out of the market, the abundance of money has no power to increase demand or raise prices. Instead, demand declines ever more and more, and prices reach unheard-of depths. At the best, changes in the quantity of money* can do no more than neutralize, in some slight degree, or strengthen, in some slight degree, the power of the more real and fundamental causes which are at work.

But, in the second place, when short periods are con-

* Unless of very great magnitude.

sidered, the power of changes in the quantity of money to neutralize or strengthen the real causes of changing demand is, in a modern system, comparatively small. If dealers are really eager to buy and have the necessary wealth, they experience little difficulty in getting the medium of exchange needed to do the work. Booms seem almost as frequent and excessive in a depleted, as in a plethoric, condition of the monetary stock. On the other hand, if dealers do not care to buy, the abundance of money does not induce them to do so. Depressions seem just as deep and prolonged in a plethoric, as in a depleted, condition of the monetary stock.

The explanation of this is to be found in the fact that the particular medium of exchange with which those transactions having most to do with determining the course of general prices are effected, possess in a high degree the property of elasticity. For the general course of prices (wholesale) is largely determined in the great exchanges where wheat, cotton, iron, petroleum, and so on, are dealt in. But the exchange medium employed at these markets is not money in the narrow sense, but rather credit. Cotton, wheat, and iron, are paid for with checks, and these checks practically never lead to a call for cash. Thus these transactions are carried on with what is commonly called deposit currency. But, with respect to this particular sort of circulating medium we can say with measurable accuracy, that it expands or contracts as it is needed, expands or contracts, indeed, with the expansion or contraction of the very business which uses it. Just because a dealer has bought 50,000 bushels of wheat, he can induce his banker to manufacture on his behalf say \$30,000 in credit money, secured by that wheat and ready to be used in buying more wheat. The new wheat, in turn, can be made the basis of more bank credit, which again can be used in buying more wheat; and so on.

But here an apparent concession seems necessary.

To the above account of the matter, an important qualification must be added. Beneath this highly expandible deposit, or bank, currency, there must always exist a basis of real money. Every new bank loan must involve setting aside a certain reserve of actual money behind that loan. But the importance of this concession is diminished by several considerations. First, the possible expansion of the loan is several times as great as the necessary addition to the reserve. Again, as booms are more or less local in character, reserve money inevitably flows into boom centers from other points. Finally, it is to be said that, in any case, the state of the reserves is *not a primary factor* in the case. It only comes in to reinforce or neutralize other more fundamental forces. For the primary conditions of the expansion of credit as a medium of exchange, i. e., of the lending of deposit credit, are these two: (1) The borrower thinks that business conditions are favorable, is, therefore, eager to buy and, hence, asks for the credit; and (2) banks believe that the prospects, and the property, of the borrower warrant making him the loan and, hence, grant the credit. If these two conditions are fulfilled, surplus reserves must go very low indeed before banks will stop lending credit, i. e., expanding deposit currency. If these conditions are not fulfilled, even very large surplus reserves will have little effect in stimulating loan-making, i. e., in expanding deposit currency.

We seem justified, then, in concluding that, if short periods only are considered, we should reasonably expect to find just what we do find, namely that the quantity of money has little to do with determining the demand for goods and, therefore, has little to do with determining price changes. Demand expands or contracts according to general business conditions, creating or destroying its own medium of exchange, as the need arises or disappears. For short periods, the analogy of the moving van and the householder is almost perfect. There is much money (much

circulating medium) because there is much buying of (demand for) goods; the buying is not extensive because there is much money. On the other hand, there is little money (circulating medium) because there is little buying; the buying is not reduced to small proportions because the stock of money is small.

But, now, what is to be said with respect to the case of *long time periods*? Even if the weakness of changes in the quantity of money be granted when short periods are considered, does it not seem self-evident that, given time enough, these changes in quantity must count? During any one twenty-year period, let us say, the ups and downs of the general price level will be determined almost independently of the quantity of money. But, as between two such periods one of which has a circulation of \$20 per capita while the other has \$40 per capita, should we not necessarily have a difference in the average level? Should we not expect to find the high points higher, and the low points less low, in the latter case than in the former? Doubtless there seems to be on the surface some ground for an affirmative answer to this question, nevertheless the negative is more easily supported.

The general nature of the argument has already been brought out. The tendency of changes in the quantity of money to effect changes in the level of prices is so *slow*, so *interrupted*, in its operation that, before its work can be done, (1) other counteracting forces are likely to come into operation and (2) the very monetary condition responsible for the tendency is quite likely to have been reversed. This, of course, is a proposition the truth or falsity of which could be finally determined only by experience. But it has at least a fair presumption on its side. That the changing of prices through the changing of the quantity of money is bound to be a slow and often interrupted operation, has already been brought out. That counteracting forces are likely to put in an appearance at almost any

time, and that the very condition responsible for the tendency is likely to be reversed, can easily be shown.

In the first place, there are always liable to be changes in the need or use for money or money metal, which changes naturally tend to neutralize corresponding changes in the quantity of money. Thus, there is always the possibility of a great expansion of commerce, or of the adoption of the gold standard by some one or more countries, or of an increase in the use of gold in the arts, or of a reaction toward more use of cash instead of checks; and any one of these would plainly tend to neutralize the effect of an increase in the world's output of gold. On the other hand, an extension of Anglo-American habits, with respect to the use of checks, to the countries of continental Europe and to other countries where, at present, cash transactions are the rule, would diminish the need for money, and so tend to neutralize the effect of a falling-off in the gold output. Again, there is always liable to occur a change in the cost of producing goods; and any such change would tend to neutralize the effect of an increase in the quantity of money.

But not only does the slowness with which changes in the quantity of money (money metal) act, render it quite likely that counteracting forces will put in an appearance before any change in the price level has been produced; this same fact makes it quite possible that any given change in quantity may be replaced by a change in the opposite direction before the former has accomplished its task and, hence, the result may never be reached. For the production of gold has always been by spurts. A great increase in production has been followed after some years by a decline, this again to be succeeded by an increase, and so on. The Californian and Australian discoveries led people to expect a great fall in the price of gold, and some fall doubtless took place; but, by the time it had amounted to a tithe of what was expected, the production of gold

had considerably fallen off, and within twenty-five years of the Sacramento discovery the output had declined 50 per cent from the highest point.

In the preceding discussion of the quantity principle, no pains has been taken to discriminate among different cases. But it should not be left without remarking that the principle is of very different degrees of significance in different cases. When a country has as its standard an irredeemable paper money, the influence of changes in quantity in modifying the level of prices is probably much greater than when the standard is some precious metal, silver or gold. Again, the influence of changes in quantity is probably more significant in the case of a country having as its standard a metal not commonly used by other nations, e. g., a country having silver at the present time. Changes in quantity are more significant in countries which make comparatively little use of credit, than in England or America where considerably more than half of all business transactions are effected through credit media of exchange. To show that these propositions must be true will furnish useful problems for the student.

Corollary 1. *The value of money tends to vary directly with the quantity of standard metal used in the arts.*

Any change in the quantity of standard metal used in the arts plainly means just so much less available for use as money. But the value of money tends to vary inversely as the quantity. Hence, it tends to vary directly as the amount used in the arts.

In view of what has already been said in discussing the Caution, it should be evident that this proposition is not of great practical significance. Changes in the amount of gold consumed in the arts have not constituted an important factor in determining the value of money.

Corollary 2. *The value of money tends to vary inversely as the stock of standard metal in existence, whether in the shape of money, bullion, or commodities.*

Since there is free coinage of standard metal, all of that metal in existence is potential money. Any change in the total stock will, therefore, tend to effect a similar, though smaller, change in the quantity of money. But this in turn tends to cause an inverse change in the value of money.

Corollary 3. *The value of money tends to vary inversely, though far from proportionally, as the output of standard metal.*

This is obviously a corollary from the preceding proposition. Changes in output tend to effect similar but smaller changes in stock. Changes in stock tend to effect inverse changes in value.

It has already been brought out, in our discussion of the Caution, that the principle contained in the corollary before us has not proved of great practical significance. Changes in the output of silver or gold—the only two metals which have to any extent occupied the place of standard metal—have shown no such power to modify the value of those metals as similar changes in the case of wheat, or cotton, or iron, commonly show. In fact, there seem to be only two or three instances of such connection between output and value for which anything like a conclusive case can be made out. I have in mind, of course, the increase in the output of both metals which followed the discovery of America, and the increase in the output of gold which followed the Californian and Australian discoveries.* Even in these cases, there is room for doubt. Certainly the claim in the second case is weakened by three considerations. First, the rise of prices which appeared between 1865 and 1874 might be plausibly represented as, in part at least, one of those price expansions which mark a boom period. Secondly, the rise in prices bore no sort of proportion to the increase in

*Some are disposed to add the recent expansion of output following the South African and Klondike discoveries. I am not yet convinced.

the stock of gold.* Finally, the advance in prices disappeared by 1875.

Such being our experience with a change in gold production which was simply stupendous, it is of course ridiculous to expect that any material effect will be produced by ordinary fluctuations in output. It can only be said that the value of money *tends*, in a very weak way indeed, to vary inversely as the output of standard metal.

These facts of experience are easily reconciled with the reasonable expectations of theory. We have already touched on the effect of neutralizing causes, such as the expansion of commerce, the adoption of the gold standard by new nations, and so on. One other point must be remarked.

Changes in the output of gold can not materially affect its value, because they can not materially affect the total stock of gold. In the case of many commodities, as for example wheat, a doubling of the output means almost a doubling of stock; since the yearly output is almost completely and finally withdrawn from the market, before the next harvest. But with gold, things are very different. Its physical imperishability, its very high specific value, and its technical treatment as money, make it, economically considered, almost immortal. It is almost never consumed in the sense of being irrevocably withdrawn from the market. The untold accumulations of the centuries are in large measure available to meet the needs of today. In consequence, an increase or decrease in the annual output does not cause anything like a corresponding increase or decrease in the stock. In fact, the chief practical reason for stating this principle at all is to get an opportunity to emphasize once more the folly, alike of the anxieties and

*Between 1850 and 1875 an amount equal to the total production for the preceding 357 years was added to the stock (Laughlin's Bimetallism). That is, the stock was much more than doubled. The rise in prices was perhaps twenty per cent.

hopes, which people are led to indulge in because of changes in the output of gold. Only such changes as are really stupendous can seriously affect its value. For only such can seriously affect the volume of a stock which in value already amounts to many billions.

Corollary 4. *The value of money tends to vary directly as the expense of producing standard money metal.*

This follows from Corollary 3. A change in the expense of production is likely to be followed by an inverse change in the output. If expense declines, profits increase, and, so, producers increase output.* If expense increases, profits decline, and, so, producers diminish output. But changes in output tend to be followed by inverse changes in value. Corollary 3. Hence changes in expense of production tend to be followed by like changes in value.

As in the preceding cases, it must be said that the principle just laid down is of quite limited importance. This obviously follows from the fact already noted that the preceding corollary, *on which this depends*, is of very limited importance. Changes in the output of standard metal do not greatly affect the value of money, and, so, changes in expense of production, which act through changes in output, do not greatly affect the value of money.

But there is another reason for this conclusion, which we must note. In gold mining, changes in the expense of production do not bring about inverse *changes in the output* with anything like the promptness or certainty characteristic of many other industries. Gold mining is highly speculative. The men who engage in it do so, not for the sake of earning a regular, constant, and reasonable return for their sacrifices, but with the hope of getting an extraordinarily large, though only occasional, return. In large meas-

*Circumstances are conceivable under which, though expense has declined, output can not, or does not, increase. In that case the result would not follow. But such a case would be quite exceptional.

ure it can be said that their expectation is to gain a fortune or *nothing*. To men in such an attitude of mind, a two or three per cent variation in average or marginal profits means nothing. Prove to them that, taking into account failures and successes, every ounce of gold taken from the Klondike has really cost \$50, though worth only \$20, and they would still go on mining it, exactly as the patrons of a lottery go on buying tickets, though convinced that on an average every dollar earned by this method represents twenty dollars of cost. Doubtless, these comments apply less to quartz mining than to placer mining, and less to all present day mining than to that of fifty years ago. But it is still true that the whole industry of gold mining is far short of being an industry in which changes in expense of production can be expected promptly to effect corresponding changes in value.

Principle 5. *The value of money in any country or group of countries having the same standard tends to vary directly as the need for it, i. e., as the money work to be done.*

That changes in the need for money must tend to cause similar changes in its value would seem to be almost self-evident. Doubtless, as in the case of changes in quantity, the process could not be a direct one. Changes in need could not, as with ordinary commodities, change the market demand* for money and so raise its price. Money has always the same price; and changes in its exchange value can never mean anything but opposite changes in the prices of goods. That is, if changes in the need for money are to influence its value, they must do this by changing the level of prices; and, to do this, they must change the demand for, or the supply of, goods in general. But, while changes in the need for money must influence its value, if at all, by this roundabout path, they surely must tend to

*Using the word in the ordinary sense.

do it. Let us see how it might be accomplished. If we suppose an increase in the need for money without any corresponding increase in the quantity, would this be likely to increase the supply of goods, or decrease the demand for goods, in such a way as to lower the level of prices, i. e., to raise the value of money? For example, in the case of a panic the collapse of credit increases enormously the need for some form of money. Could this change influence the supply of, or the demand for, goods? Surely it might. For dealers with pressing money engagements to meet, if they were possessed of wheat or cotton or other commodities, might be obliged to unload their holdings in quite unexpected amounts, thus lowering the prices of these commodities and, therefore, lowering the average level of prices.

Again, let us suppose that some nation has just determined to adopt the gold standard, and, in the process of accumulating a stock of gold for reserve purposes, draws down considerably the stock of London or New York. Such a lowering of the reserves of a great commercial center would naturally cause the rate of discount to rise, which in turn might lower the demand of dealers for wheat or cotton or wool because making it difficult to get funds. This lowering of the demand for the commodities would lower their prices and, so, the general price level, i. e., would raise the value of money. Or it is possible that this same raising of the rate of discount would compel speculative dealers with large holdings, which they had bought with borrowed capital, to throw these holdings on the market, since at the higher rate of discount their prospect of profit was taken away. This unloading would of course tend to lower the level of prices, i. e., to raise the value of money.

The above argument shows that an increase in the need for money would, in some cases at least, tend to cause an increase in its value; and the reader will probably be dis-

posed to believe that, in almost any case which could be suggested, a little ingenuity would enable us to perceive methods by which an increase in the need of money would tend to effect an increase in its value. But, further, similar methods of analysis would almost certainly show that a decrease in the need for money would naturally lead to consequences precisely opposite to those just described, i. e., to a fall in the value of money. We may assume then as fairly certain, the proposition that changes in the need for money would naturally tend to cause similar changes in its value.

Caution. *The tendency of changes in need to cause changes in the value of money is seldom of great practical significance.*

Under a good monetary and banking system there is ordinarily no difficulty in adjusting the stock of money to the changing need for money, without any alteration in value. In the first place, this adjustment is often brought about through geographical redistribution. For increased need does not necessarily show itself everywhere at once. In summer, when the country districts have greatest need for money to move the crops, business in the great centers is more or less stagnant, and hence those places have less than the ordinary need for money. So, again, different nations do not often find themselves simultaneously experiencing a very great increase in the need for money. Accordingly, any one district or nation can usually increase its stock by drawing on that of some neighbor,—assuming, of course, that the two possess a common standard of value—; and this it can ordinarily accomplish without causing any considerable change in price level. For all experience shows that, long before such change in price level is effected, movements of money between nations are brought about through changes in the rate of discount.

But, in the second place, a good monetary and banking system has in itself sufficient elasticity to adjust its volume

to all ordinary variations in need. As has been so often remarked, bank credit forms the circulating medium for a large class of transactions; and bank credit is a highly elastic currency, contracting or expanding as the need may dictate. Even where some form of money is indispensable, a good paper money will in large measure furnish the needed elasticity.

Perhaps I ought not to leave this point without remarking that changes in the need for *standard* money are more likely to result in changes in the value of money than changes in the need for money in general. Thus, if some nation which has had for many years a paper money system, decides to introduce the gold standard, the need for gold money which it now experiences will be more potent to influence the value of money than would an equal need for money in general. If it sets out to accumulate a reserve of one hundred millions, this is much more likely to increase the value of money than would an effort to expand its ordinary circulation to a similar amount. This follows simply from the fact that, while the need of the ordinary circulation may be met by an expansion of the note issues, or of deposit currency, or of both, the need of the reserve can be satisfied with gold *only*. Consequently, means must be employed to draw on the great gold reserves of the world; and, under normal conditions, the attempt to do so would involve a tendency to lower the prices of goods, i. e., to raise the value of money. Thus, a country undertaking this task would perhaps issue bonds to accumulate a gold reserve, arranging for the sale of these bonds in countries from which payment in gold could be secured. But this sale of bonds to the foreigner would put the country into a position where it would have to make regular interest payments to outsiders; and, to do this without losing any of the gold just gained, it would have to stimulate foreign buying of its goods through lowered prices. Further, in the country from which the gold was drawn, the outgo of

the gold would tend to lower the bank reserves, and so raise the rate of discount, and so, finally, to cause a drop in the prices of staples, i. e., to cause a rise in money.

But here, again, I must warn the reader against exaggerating the significance of the proposition before us. It is almost certain that, even in the case of standard money, great changes in need are commonly satisfied without any material effect on the level of prices, that is, on the value of money. The men who have in charge the building up of reserves, appreciate fully the importance of accomplishing their task in such a way as to avoid any serious disturbance of existing conditions; and, so wisely have they managed during the last twenty-five years, that almost every one of the six or seven important changes from silver, or paper, to gold has been effected without noticeable influence on the gold market.

Corollary 1. *The value of money tends to vary inversely as the extent to which credit is employed as money.*

We have just seen that the value of money tends, though but weakly, to vary with the *need* for money. It obviously follows that any cause tending to effect changes in the need for money will tend to produce corresponding changes in its value. Such a cause is to be found in any marked change in the use of credit as a substitute for money. If, in a commercial nation which has been accustomed to use only cash in exchanging goods, there develops a general practice of using bank credit for the purpose, this will manifestly mean diminished need for money, and hence would naturally lead to a lower value of money.

Corollary 2. *A sudden and great decline in commercial credit is likely to bring about a sharp rise in the value of money.*

This corollary covers a second important case wherein changes in credit are likely to cause changes in the value of money. This case arises, when in a country where

credit is under ordinary circumstances extensively employed as a medium of exchange, something happens to bring about a temporary collapse of credit and, so, a temporary shutting out of this method of making exchanges. In such a case, it is natural to expect that the enlarged task temporarily thrown on money itself, will cause a rise in its value. It seems probable that this consideration has a part, though by no means the largest part, in explaining the fact that, in the midst of a commercial panic, prices show an extraordinary decline. Since credit can not at such a time perform its usual share of the exchanging work, a larger burden falls on money proper.

In the three principles just preceding, together with their corollaries, we have probably all the important processes whereby absolute changes in the value of money are brought about. We must now add a few principles which in part limit, in part apply, and in part supplement, these general principles.

Principle 6. *As compared with most other commodities the value of money displays exceptional inertia or capacity to resist forces tending to produce change.*

It would not be difficult to make an argument for this proposition from experience, but it would be tedious and needless. The conditions with which we are dealing show that the statement must be true. Changes in the value of money are bound to be slower than, and slighter than, the changes which similar causes would produce in wheat or cotton or copper; and this is true, whether the process by which the change is effected is that which we have called the readjustment process, or the demand and supply process.

First, the readjustment process is bound to work less effectively in the case of money than in that of any other goods. If the price of wheat or cotton or copper falls in Liverpool or Paris or New York, it almost instantly falls everywhere else in like degree. But, if when

silver was the standard in India, its value in New York or London fell, its value in India did not instantly fall to anything like the same amount. And this was perfectly natural. To adjust the New York value of copper to a change in the Paris value of copper, we have only to drop the New York price of that one commodity to its Paris price. But the case of money is very different. To adjust the Indian value of silver, when it was the monetary standard, to a change in the London value of silver, involved *moving the prices of all goods other than silver as far up as the London price of silver had gone down*. But, as a matter of course, the second process takes more time than the first. To change the prices of a thousand commodities is a much larger task than to change the price of one commodity. The raising of the price of any commodity is more or less strenuously resisted by almost every consumer of that commodity. The lowering of the price of any commodity is more or less strenuously resisted by almost every seller of every commodity. When the prices of a thousand commodities are to be changed, the resistance is, broadly speaking, a thousand times as great as when the price of only one is to be changed. It is, therefore, perfectly reasonable to expect that the process of readjusting the value of the money of a country to a change in the value of the standard, brought about in some other market, would be a much slower one than a similar process of readjustment in the case of an ordinary commodity.

In order to strengthen this presumption from general considerations, let us follow the working out of such a process in a hypothetical case. Suppose that, at a certain time when India had a silver standard, the price of that metal were to fall 10 or 15 per cent. As we saw above, page 191, the rate of exchange on London would be promptly adjusted to the new London price of silver. Further, the prices of imported goods would be quite promptly adjusted. But the next step would take more

time. The prices of home goods would of course rise in time, as the forces of competition worked themselves out, but much more slowly. For the necessity and reasonableness of the change is by no means so evident as with imported goods. The fall of silver in London makes the cost of goods, bought from London with silver, higher; and, so, of course their prices would have to rise. But home goods, the raw material and labor for which were bought at the old price, would not have cost more, and it is not so plain that they would need to sell for more. Doubtless, a readjustment must in the end take place. The competition of foreign buyers will tend to raise the prices of those home goods which are exported; since the money of the foreigner will buy more Indian money than before, and, hence, will buy more Indian goods at the old prices, thus making purchases from India specially profitable. But this will not be anything like instantaneous; since the Indian producer, though selling at the old prices, will continue to make a profit until the rise in prices has come to affect raw materials and labor.

But, if the extension of the rise in prices to Indian products is somewhat slow, its extension to Indian labor is slower still. It is a familiar commonplace that, in a period of inflation, wages rise last. This is especially true in countries where labor is ignorant, unambitious, and unorganized. But it is in great measure true everywhere. the laborer is not in a position to inform himself as can the trader; he is not in a position to use the information when he has gained it. He has small resources to tide him over a period of illness. He can not easily emigrate. And so on.

It perhaps should be added to all this that there are quite a number of cases where custom or convention has made prices or wages almost absolutely fixed. For example, every one expects to pay 5 cents for a loaf of bread, five or six cents for a quart of milk, 5 cents for soft

drinks, for beer, and so on. The fees of doctors in a country village remain substantially the same for many years. In short, wages and prices have a sort of inertia which any cause of change must overcome. They resist change until the force tending to cause change has become exceptionally strong. Accordingly, while India was bound to adjust the value of its money to a change in the world price of silver, the process was in fact a slow one; and so it would always be with changes in the value of money which had to be effected by the readjustment process.

We have just seen that changes in the value of money by the readjustment process are necessarily slow. It is not difficult to show that the same is, in a far higher degree, true of changes effected by the demand and supply process. Of course the effecting of such changes must mean, as before, changing the prices of all goods other than money. And this changing of the prices of all goods is a more difficult process than before. In the first place, prices and wages show the same *inertia*, only in far higher degree. When the London price of silver falls, every buyer sees that it is reasonable that London goods should have a higher price in silver than before. But, when there is no such outside criterion of changes in the value of the standard, the case is quite different. Gold is the standard of substantially all important commercial nations. Outside those nations, there is no market where it is bought and sold like wheat or cotton or copper; and so there is no place where changes in its value show themselves in fluctuations in its price, as is the case with silver. Is gold worth less than it was two years ago? This question can be answered only by studying those very prices which must be changed in order to bring about such a change in the value of gold. Until, therefore, prices have risen, proving that gold has fallen, you can not convince buyers that it is reasonable for prices to rise. Accordingly, there is nothing.

as in the former case, to reconcile them to an advance in prices. On the other hand, in the case of increasing value of gold, there is a similar lack of criteria outside of prices, and so there is nothing to reconcile sellers to the fall in prices involved. They not only do not see a reason for change, they feel sure that change would be wrong.

The above argument was based on the negative consideration that there is lacking an index of changes in the value of money to reconcile buyers to a raising, or sellers to a lowering, of prices. It ought to be added, to strengthen this argument for the inertia of a given price scale, that the habit of employing anything as the measure of other things mightily strengthens its inertia, its power to resist change. The value of money, being constantly treated as a proper measure of the values of all other things, inevitably gets to be thought of as itself undergoing no change. Every teacher of economics learns that it takes much effort and patience to get the average student to realize that money can change in value at all. What is true of the student is even more true of the general public. To them, unless just having passed through a campaign of education, changes in prices are changes in the value of goods only, not changes in the value of money. A dollar seems worth the same to them, unless there has been a decided change in their own economic condition; i. e., unless they have grown richer or poorer. Hence, fancying a dollar to be worth the same always, they tend to insist on keeping it worth the same,—they insist on getting just as much for it, or giving no more for it.

In the second place, while the inertia of prices, when changes can not be effected by the readjustment process, is stronger than in the other case, the *process* by which the change is brought about is a *less direct and less efficient* one. When India had a silver standard, changes in the value of which could be followed in the fluctuations of its London price, the self-interest of all importers inevitably

drove them to adjust their prices directly; that is, a certain group of persons were consciously and, as it were, openly commissioned to readjust Indian prices to the new level of silver. But, when most of the world has a gold standard the changes in the value of which appear only in price changes, the value of money must be worked out, so to speak, by money itself. Thus, increased quantity must cause increased demand for goods and, so, higher prices, i. e., cheaper money. Or, diminished quantity must cause smaller demand for goods and, so, lower prices, i. e., dearer money. But, as we saw, a few pages back, the working out of these processes is very slow and of little efficacy. A great increase in the quantity of money takes place without any appreciable effect on the demand for goods and, so, without any appreciable effect on the level of prices. And a precisely similar statement may be made with respect to a diminution in the quantity of money.

Accordingly, we seem justified in affirming that the value of money shows exceptional inertia, exceptional capacity to resist the forces which tend to produce change.

Corollary. *The liability of any metal to show fluctuations in value varies inversely as the extent to which it is employed as a standard of value.*

Making a certain metal the monetary standard of any country fastens it securely to the money of that country. Whatever value the money has, the metal must have, and *vice versa*. But the value of the money is steadier, just because it is money. Hence, the value of the metal, being tied to that of the money, must also be steadier. Thus, making a metal the monetary standard for a country tends to diminish its liability to fluctuate in value. But, if making it the standard for one country has this tendency, making it the standard for a second country will increase this tendency; making it the standard for a third country will increase it still further; and so on.

Principle 7. *The liability of a money to show fluctua-*

tions in value is reduced to a minimum by having for its standard a metal which is the money standard of substantially all important commercial countries.

This principle may be defended by treating it as a corollary under the preceding principle. The liability of a metal to fluctuate in value varies inversely as the extent of its use as a monetary standard. But a metal universally used as a standard has the greatest possible extent of such use; and, so, its tendency to fluctuate will be reduced to a minimum. But the value of the money stays with the standard, hence the tendency of the money to fluctuate will be reduced to a minimum.

But there is a second and independent argument for this principle. As we have seen, there are two processes whereby money can be changed in value, the readjustment process, and the supply and demand process. Now, if we shut out one of these altogether, particularly if that one be the more effective, we reduce to a minimum the tendency of money to change. And this is just what we do by making a standard universal. If practically all great commercial countries have a gold standard, there is left no market where changes in the value of gold as measured in price can be followed, and, hence, there can be no readjustment of prices to changes in the price of gold. In such a case, therefore, changing the value of money by the readjustment process is shut out. But, finally, in shutting out this process, we shut out the more effective of the two, as already brought out in discussing Principle 7.

I will now add two principles of minor importance, the reasons for which I will leave the student to suggest.

Principle 8. *If a country has as its standard a metal which is a mere commodity in the principal world markets, and if said country maintains trade relations with said world markets, it seems certain that the value of the money of that country is chiefly determined under the readjust-*

ment principle; i. e., the value of the standard metal is first determined by the usual laws of price in the world markets, and the value of the money in said country is then adjusted to that of said standard metal.

Principle 9. If a country has as its monetary standard irredeemable paper, it seems probable that the value of its money is most largely determined through the readjustment process, particularly during any period of rapid changes in value.

Corollary. In periods marked by great fluctuations in governmental credit, the value of irredeemable government paper seems to depend chiefly on these fluctuations, varying inversely with them.

IV. CRITIQUE OF SOME FALSE OR ONE-SIDED THEORIES.

As respects not a few problems of political economy, the furnishing of sound principles is, if anything, less important than the expelling of unsound ones. If people, though ignorant as to the proper course, are yet fully informed as to the paths to be avoided, they are more likely to escape doing the wrong thing, *by doing nothing*, which, indeed, is often the best course on other grounds. In the case before us, this is especially true. False doctrines with respect to the determination of the value of money have been extremely harmful in actual legislation. It, therefore, seems best to supplement the statement of principles already given, with a criticism of false doctrines.

A. The Quantity Theory.

In its cruder forms, the so-called quantity theory is one of the most troublesome, perhaps one of the most dangerous, of the false or one-sided theories. First, it keeps the public in perpetual and quite needless anxiety for fear there will be a discrepancy between the quantity of money and the need for it, sufficient to cause a material change in the level

of prices. Thus, when there is a great increase in the production of standard metal, one class of persons look forward with fear and trembling toward an era of "inflation," perhaps even go so far as to agitate for a change* of standards, because they expect inflation to bring about a great fall in money. On the other hand, when there occurs a falling off in metal production or when some new nation adopts gold as its standard, a different class of persons are consumed with anxiety lest there should result a great fall in prices, i. e., a rise in the value of money.

Again, the general acceptance of a very crude form of the quantity theory keeps the public in constant error as respects the explanation of any actual change in prices which seems to them undesirable. Every rise in prices is a result of inflation.† On the other hand, every fall in prices, even if it affects only one or two commodities, is a result of contraction. And, since any fall in prices is looked on by an intensely industrial people as a great calamity, such a condition at once sets up a propaganda for more money,* which soon acquires the tone of a crusade against human slavery or some equally monstrous social wrong.

Finally, the crude quantity theory keeps the public perpetually in error as to the proper remedy for untoward price conditions, particularly a condition of falling prices. A low level of prices, which, if due to money at all, must connect itself with standard money, it is proposed to remedy by issuing more government notes, or more fiat silver. Whereas, if anything in economic science is certain, it is this, that, so long as we maintain the gold standard, we can not materially influence the level of prices, however much we inflate the subordinate currencies.

*This was the case between 1850 and 1860.

† Closely allied is the readiness to explain every export of gold as a case of Gresham's Law.

But, although the quantity theory is troublesome and dangerous, we have already pointed out its more important qualifications. We will, therefore, content ourselves with making several statements which may be taken as a sort of summary of the whole matter. First, it is always possible to conceive changes in the quantity of money so great that they would effect opposite changes in its value. Consequently, the quantity doctrine furnishes a convenient logical instrument for dealing with quite a number of money problems. Secondly, in rare cases, e. g., that of an isolated district devoted to the mining of standard metal, the quantity of money is actually *the* potent factor in determining its value. Thirdly, in rare cases, there occur changes in the world's stock of standard metal so stupendous that they actually influence the level of world prices, i. e., the value of money. Finally, looking at the matter broadly, having in mind the total of changes in the quantity of money, on the one hand, and the total of changes in the level of prices, on the other, it is to be said that there is comparatively little causal connection between them: there is little danger in ignoring the quantity doctrine altogether.

B. The Fiat Theory.

One of the most notable and pernicious of the various false or defective theories with respect to the value of money, may be called the Fiat theory. Briefly stated, this theory teaches that the value of money is *determined by the mere decree of government*. In other words, if the law says that a piece of paper or a disk of metal shall be worth one dollar, such piece of paper or disk of metal will have the value of a dollar without any respect to its value as a piece of metal, or to the quantity of it issued, or any other condition whatsoever. It is usually understood that making the given object a dollar also involves making it a legal tender for all purposes, including payments for taxes, and so on. The phrase "without reference to its

value as a piece of matter, or the quantity of it issued," etc., must be emphasized; since, if it were necessary to choose some substance worth a dollar or to restrict the amount to some definite sum, then it would be the value of the substance or the limitation of the quantity, and *not the mere decree of government*, which serves as the effective cause in maintaining its value. According to this theory, the law can by simple decree make pieces of silver having a value of thirty-eight cents, or pieces of paper having no value whatever, worth one hundred cents.

Now, of course, there is a sense in which the proposition set forth as the gist of the fiat theory is quite undeniable. Government can so legislate as to give the *nominal* value of one dollar to anything it may choose. It has only to make that thing the sole legal tender or the cheapest of several legal tenders. (See Chapter V.) But I hardly need say that the fiat theory means much more than this. It means that the thing in question will be worth one dollar in *real* value, in power to buy goods; so that, if before the decree one dollar would buy two bushels of potatoes, this will continue to be the case after the decree. This plainly is a very different matter, and quite contrary to what we have assumed to be the truth. We have said that, if the government decided to put 12.9 grains instead of 25.8 grains into the dollar, it would thereby make the dollar worth only half as much as before. This fiat theory, on the other hand, says that the change indicated would make 12.9 grains worth as much as 25.8 grains had formerly been.

Now, it hardly seems necessary to argue against so ridiculous a notion. Yet its acceptance by very many persons in every community forbids our passing it by. Perhaps the method of reducing it to an absurdity is the easiest to apply. Let us suppose that the government decides on the policy just indicated, putting 12.9 grains of gold into the standard dollar. Let us suppose, further, that this policy works as claimed by the advocates of the

fiat theory; that is, the new dollar of 12.9 grains proves to be just as valuable as the old one of 25.8 grains. Now, since gold is freely coined, the bullion outside and that in the coins must have the same value. (See page 166.) But, by hypothesis, the 12.9 grains in coin form have been doubled in value, therefore, all the gold bullion in the world must by the same decree be doubled in value. Let us go on. Suppose the next year we pass another law, putting 6.4 grains into the dollar, thus again doubling the value of all the gold in the world. A year later we make it 3.25 grains, then 1.6, and so on. If the theory were correct, by a mere change in our law we could make one millionth of a grain of gold worth as much as 25.8 grains now are. Would anyone have the hardihood to make such a claim as this? Surely, a theory which leads to such a conclusion is quite untenable.

But thus far, in dealing with the fiat theory, I have supposed that the law took, at each change, a smaller amount of the same metal. Now this is perfectly fair, for, if the decree of government alone can fix the value of the money, there is no reason why it should not act on the same metal all the time. But the theory we are considering has more often been applied in connection with a scheme for introducing a different metal as standard. Is such a case materially different? Let us suppose that the government decides to make the standard dollar no longer from 25.8 grains of gold, but from 412.5 grains of silver, the latter being now worth less than half as much as the gold; would the change result in making the silver worth as much as the gold? Doubtless the increased use of silver as money would of itself tend to increase its value, just as the increased employment of copper in electrical industry tends to raise its price. But this particular effect of the change in the law—an effect which would almost certainly be very small—is not at all what the believer in the fiat theory has in mind. He claims that the decree of govern-

ment, as such, gives to the silver the value named, at once and absolutely.

As before, the absurdity of such a claim is best brought out by showing the consequences to which it leads. Since silver is to be freely coined, silver bullion will necessarily be raised in value as much as silver coin. That is, it is not merely necessary that the decree of government shall double the value of every 412.5 grains of silver which is made into a dollar, it would have to do the same thing for all the silver bullion in the world. Would the fiatist be able to claim this? If he says yes, let us make a similar but stronger hypothesis. Suppose the government decides to make the standard dollar from a pound of copper, which is commonly worth from ten to fifteen cents or one-eighth of a dollar. According to the fiat theory, this would make the copper in the coin worth eight times as much as before; and, since the metal is freely coined, all the copper in the world would be multiplied in value eight times by the mere decree of government. Would the advocates of the theory in question go so far as this? If yes, then let us suppose the government makes the standard dollar from a pound of pig iron which is worth, say, one cent. Will this action of our Congress make every pound of iron in the world worth one hundred times as much as before? If he still says yes, let us take a pound of clay worth, say, one-twentieth of a cent. Would any one have the hardihood to claim that the mere decree of government could multiply the value of all the clay in the world two thousand times?

But to make assurance doubly sure let us compare this case of money with the analogous one of liquid measure. As we learned earlier, the law by decreeing that a vessel which will hold just 8.33 pounds of water shall constitute a gallon measure, fixes for the whole country the capacity of the gallon measure. Let us suppose that after a political campaign fought on this issue, Congress concludes to

change the law so that a vessel which has the capacity to hold 8.33 pounds of sulphuric acid shall constitute a gallon measure. Now, sulphuric acid is about twice as heavy as water, and so of course 8.33 pounds of sulphuric acid will fill about half the space that 8.33 pounds of water fills; in other words, 8.33 pounds of sulphuric acid will fill a *half* gallon measure of the present standard. Now, what will be the effect of the decision of the government making sulphuric acid the standard? The believer in the fiat theory ought to answer that the action of the government would cause the sulphuric acid to expand to twice its present size, so that henceforth it would fill a gallon measure instead of a half-gallon measure. But of course he would admit at once that this is nonsense, that the action of the government, instead of increasing the space-filling power of the sulphuric acid, would cut in two the gallon measure, would make it just half as large as at present. But what is true in the case of liquid measures is substantially true of value measures also. Making a certain quantity of some metal which has a value different from the old standard, equal to a dollar by legislation is a process whereby government *changes the value, not of the metal, but of the dollar.*

In dealing with this fiat theory, I have neglected what is historically its most common application, viz., irredeemable paper money; for it was in connection with the paper money agitation that this theory first obtained vogue, though its most important recent application was to the controversy over silver. According to the fiat doctrine, governments can issue printed pieces of paper not redeemable in anything and, by merely decreeing that they shall be worth a dollar, really make them so, i. e., make them able to buy just as much wheat as a dollar would buy when the change was made. Here again the *reductio ad absurdum* is perhaps the most effective argument. But I will leave the student to work it out for himself. (See Problem 18.)

C. *The Mint-Price Theory.*

We come next to a theory as to how the value of money is determined, which had some vogue during the political campaign of 1896 and which, for want of a better name, we will call the Mint Price Theory. At bottom, this is probably a confused, but somewhat less crude, version of the fiat theory. It may be stated as follows: When a government determines what is known as the mint price of the standard money metal, i. e., when it fixes the rate at which the mint will freely coin that metal, it formally or virtually agrees to buy that metal at the mint at a fixed price in unlimited amounts. Thus the United States will give coined gold, or its equivalent, for all standard bullion brought to it, at the rate of \$18.60 per ounce. But, when any buyer takes such a position with relation to any commodity, that is, when he buys all that is brought at a fixed price, he necessarily makes that price the market price for all buyers; since, so long as he will take all that comes at the figure in question, no one else can buy the stuff for a smaller price. Consequently, any government, in fixing the mint price of the standard money metal, thereby determines its value and, so, the value of the money of the country.

Now, a little reflection will show that this doctrine is only our old friend, the fiat theory, in a new guise. For all that the law accomplishes, in fixing the mint price of a metal, is to determine the nominal valuation of the coins to be made from a certain quantity of that metal, and, therefore, to determine, in case of free coinage, the nominal value of that metal in coins made from itself. In our case, the law says that an ounce of standard gold shall be made into \$18.60, or 25.8 grains into one dollar. It thereby establishes for the United States this equation:

The value of one dollar = the value of 25.8 grains of gold.

Now this equation gives to 25.8 grains of gold the *nominal* value of one dollar. But real value it determines only for the dollar; not for the gold. If the law changes the equation so that it reads:

The value of one dollar = the value of 12.9 grains of gold,

this changes the real value of one dollar, but only the nominal value of the gold. Twelve and nine-tenths grains of gold are worth no more than before, but the value of the dollar is cut in two. In like manner, if we decide for the free coinage of silver and make its mint price \$1.16 per ounce, or \$1 per 412.5 grains, we of course establish a new equation:

The value of one dollar = the value of 412.5 grains of silver.

But this, again, will fix, not the second member of the equation, but the first. As far as real value is concerned, we shall have changed, not the silver, but only the dollar. Silver will buy no more potatoes, nor wheat, nor iron than before;* but the dollar will buy less than half as much. That this must be the correct view is evident from the absurd consequences which follow from the opposite one. If the government can make silver worth \$1.16 per ounce, as measured in the present dollar, by making this the coinage rate, it can by the same process make an ounce of copper, costing a cent or less, worth \$1.16. In other words, it can multiply the value of copper 116 times. If this is not enough, it can do the same for an ounce of iron worth less than 1-16 of a cent. Finally, there is no reason why it should not make an ounce of earth from the garden worth \$1.16.

* Free coinage would probably increase somewhat the real value of silver; but *not because it makes the mint an unlimited buyer.* (See under the Bullion Theory.)

But the reader may ask, how could so ridiculous a doctrine deceive any one? I answer, simply the ambiguity in the words "buy" and "buyer." For, from the standpoint of formal logic, the argument is all right. An unlimited buyer *can* maintain any price he fixes on. So long as Mr. Leiter, or anybody else with adequate capital, agrees to buy wheat at a dollar per bushel, other people must pay that price. But, now, the buying of money metal by a mint has a peculiarity of much importance. Of course it formally means, as usual, the giving of money for some goods or other. But, in the case with which we are dealing, the goods bought with the money are really only the money paid for those goods in another form; and, in like manner, the money which is paid for the goods is only the goods bought in another form. That is, when we say that the mint is an unlimited buyer of gold at \$18.60 per ounce, we mean nothing more than that the mint will give gold in coin to the value \$18.60 for gold uncoined to the amount of an ounce. Now, it is convenient sometimes to call this process "buying" gold; but we must not forget that it is a sort of operation very different from buying in the usual sense. The mint's pursuance of this policy will of course make every ounce of gold bullion worth \$18.60 in gold coin. But, plainly, it has nothing to do with fixing the value of gold as measured in other things,—sugar, coffee, potatoes, or in some other money, say, Mexican silver. That is, the government's unlimited purchase of bullion at a fixed price merely fixes the *nominal* value of that bullion, or the value of that bullion as measured in itself.

The case would have been just the same, if we had taken silver instead of gold. The decision to buy, in the same sense, all silver brought to the mint at \$1.16 per ounce would undoubtedly make silver worth \$1.16 per ounce as measured in silver money. So, in like manner, a resolution of government to buy all lead brought to the mint at \$1.16

per ounce would make lead worth \$1.16 as measured in lead money. So, likewise, a law to buy all the clay that should be brought to the mint at \$1.16 per ounce would make clay worth \$1.16 *as measured in clay money*. But, manifestly, these would all be processes whereby the value of the dollar would be lowered, and not processes whereby the value of the substances involved would be raised.

D. *The Bullion Theory.*

As a sort of antipode to the Fiat Theory of the value of money, we often meet what might be called the Bullion Theory. This doctrine, which is more often implied than formally stated, teaches that the value of the standard metal, say gold, is first determined by the usual forces affecting the value of any metal *without respect to its use as money*, whereupon, by making such metal the monetary standard, the value of money at once becomes equal to the value of the metal, *as it was before the change*, and remains at that point, unless causes quite outside those operating on money, change the value of the gold, in which case the value of money again adjusts itself to the value of the metal gold.* Thus, when in 1896 it was proposed that the United States should decree the free coinage of silver, thereby making 412.5 grains of silver the standard,—the gold price of silver being such that these 412.5 grains of silver were worth about 50 cents,—the supporters of the bullion theory held that our taking such action would result in making our dollar worth just 50 cents.

That this theory is quite untenable is easily shown. The adoption of silver as the monetary standard of the United States would itself be a cause naturally tending to raise the value of silver. How much of an effect it would produce, no one could predict. The rise in an ounce of silver might be two cents, or five cents, or fifteen, or twenty-five.

*See page 189.

But, almost certainly, some rise would take place; and of course the dollar would go with the new value of 412.5 grains of silver, wherever it went. The bullion doctrine errs in pressing too hard the analogy between a monetary standard and a standard for some system of physical mensuration. If we should change from a gallon standard consisting of 8.33 pounds of water to one consisting of 8.33 pounds of sulphuric acid, we should cut the gallon measure in two; because legislative action can not change the bulk of 8.33 pounds of sulphuric acid. But, if we should change our monetary standard from 25.8 grains of gold to 412.5 grains of silver worth 47 cents in gold, it is not probable that we should reduce the value of our dollar to 47 cents in gold, for such legislative action could, and almost certainly would, change, to some degree, the real value of silver.

PROBLEMS.

1. "I can not understand what people mean when they say that money has risen in value since 1873. Money is by common consent the measure of the values of all other things; and, therefore, its own value must be fixed, *can not* rise or fall." From an advocate of gold in the campaign of 1896. Explain fallacy.

2. Suppose that Mr. A., starting with \$10,000 capital, buys 100,000 bushels of wheat at \$1 per bushel, putting up his \$10,000 as margin. Suppose, again, that after he has made the purchase the stock of money is suddenly inflated with the result that prices rise ten per cent. all along the line, whereupon Mr. A. sells his wheat.

a. What is his nominal profit in amount? in rate?

b. Does he make any real profit, i. e., has he any greater command over goods than before? If so, how much? Explain.

3. In 1873 the market price of standard gold in the

United States was about \$21 per ounce. By 1896, its value had risen 40 or 50 per cent., yet its price was only \$18.60. How could this be?

4. "I don't see how we have so much discussion about the value of money. Under a system like ours, it is simply a question of the value of 25.8 grains of gold." How do you answer this?

5. "The Bank of England is required to buy, and does buy, all the gold brought to it at 3£ 17s 10½d.* As long as this is the case it seems impossible that the price of the metal should ever fall materially below that minimum or that *any considerable depreciation in its value should take place.*" Paraphrase of Fullarton from Carlile's *Evolution of Modern Money*. Point out the error in the italicized clause.

6. "It is entirely wrong for the government to fix the price of gold. Of course it must determine what amount of gold is to be put into a standard coin; but it has no more business to fix by law the price of gold than to fix by law the price of wheat or cotton or anything else." Explain the mistake.

7. "We don't have free coinage of silver subsidiary money; for if we did, private individuals would take 40 cents worth of silver to the mint and get it turned into a dollar's worth of money, thus making big profits at public expense." Criticise.

8. From a report of the Michigan State Grange in 1894. "This increase (in the value of gold) has amounted to an average of 20 per cent. over all other products of industry during the past year . . ."

Look up the index number for those two years, and find out just what change in the price level took place. How do you suppose any one got the idea that there was a 20 per cent. change?

* At present, certainly, the price is £3 17s 9d.

9. "It is utterly impossible that silver should long remain at fifty-five cents an ounce, when three or four of the biggest mines can produce it at a cost under thirty cents; for, as everybody knows, the price of anything is, in the long run, the same as the cost of producing it." Is that sound?

10. Argument against silver in the campaign of 1896, when the metal in a silver dollar was worth not far from 50 cents. "I can see how free coinage is going to increase the profits of the mine owners by *doubling* the value of silver; but I do not see how it is going to help the rest of us." (1) In what sense would free coinage probably have doubled the value of silver? (2) Would that result have increased the profits of silver mine owners?

11. Show by citations from John Stuart Mills' Principles that he can not properly be quoted as an unqualified supporter of the Quantity theory. See Book 3, Chapter VIII.

12. "The value of money, like the value of anything else, is a question of demand and supply—the money work to be done and the quantity of money to do it." Is the phrase after the dash the equivalent of "demand and supply?"

13. Many persons favored the Bland-Allison act of 1878, which provided for the issue of at least \$2,000,000 worth of silver in the form of dollars each month, because they desired to make money less valuable. Yet, at the same time, they intended to keep the silver at par with gold. Was it reasonable to expect that money would become less valuable? Explain.

14. Extract from a speech in the campaign of 1896: "If any man in this community would offer to buy all the eggs at 25 cents a dozen, and was able to make good the offer, nobody would sell eggs for less, no matter what the cost of production, whether one cent or five cents a dozen. So with silver. Free coinage would establish the market

price of silver at \$1.29, and nobody would sell for a cent less." This was seemingly intended to prove that the free coinage of silver would not lower our standard. Explain fallacy.

15. Give some reasons, other than the increased output of gold, why the present (1906) level of prices should be higher than that of 1896.

16. Make a table giving the Economist prices from 1890 to 1896 in one column and the annual production of gold for the same years in a second column. Comment on their apparent relations.

17. Why should the Quantity principle have been more significant in the United States between 1865 and 1879 than it is at the present time?

18. Show by a *reductio ad absurdum* the impossibility of the Fiat theory as applied to irredeemable paper.

CHAPTER VII.

THE REQUISITES OF A GOOD MONETARY STANDARD.

We have already in various connections commented on the importance to a monetary system of a good standard firmly maintained. We come now to consider what are the requisites of such a standard. What ideal should we set before ourselves in choosing a standard? Our discussion of this matter will be general in character, though, in the process of illustrating principles, we shall incidentally bring out the merits or defects of particular candidates for the position of monetary standard, such as gold, silver, and bimetallism. I hardly need add that we must not expect any actual standard to realize the ideal. This, however, does not make the discussion of the ideal useless; for such a discussion furnishes us criteria to be used in deciding what is best among various proposed standards.

Whenever a nation sets out to consider the desirableness or undesirableness of adopting a particular monetary standard, it is bound to consider the claims of that standard from two standpoints; viz., (1) *the process of its introduction* and (2) *its actual working after being introduced*. These two points of view will furnish the principal divisions of our treatment of the subject.

I. THE REQUISITES OF A GOOD STANDARD VIEWED AS ONE TO BE INTRODUCED.

From the first standpoint, a good standard will be (a) *attainable* and (b) *attainable at a reasonable cost* to society. That no standard can, from this point of view, be called good unless it is attainable, would seem too evident to need

even statement, much less emphasis. But the fact is that a great many people who would not deny the truth of the statement when formally presented, after all, constantly overlook it in advocating their schemes of reform. For they talk and act as if nothing more were needed to convince mankind that a particular standard was the only one deserving the approval of reasonable men, than to show that, supposing it once established and able to maintain its position, it would be just to all classes and would contribute in a high degree to commercial prosperity. The fact that the particular standard in question is evidently quite impracticable,—quite unable to gain the popular support necessary for its adoption, or to keep its position after having been adopted,—this weighs nothing with many reformers. It is, therefore, necessary to emphasize attainableness—practicability—as a prime requisite of a good standard.

Practicability, in the case of a monetary standard, is of two sorts, political, and economic. A reasonable scheme must be practicable or attainable, in the sense that those whose will must determine action can be induced to favor it. If it is national, the voters must consent; if international, the treaty-making powers must consent. Only schemes which can gain this needed consent are politically practicable. But it is equally necessary that a project be economically practicable; that is, practicable in the sense that it will not be shut out or overthrown by the working of the natural laws of economics after it has been legally authorized.

When we come to ask what schemes are, and what are not, politically practicable, we find it difficult to lay down general principles having any considerable utility. But we note one or two considerations which are more or less helpful. First, we may at once set down as impracticable any scheme which is extraordinarily novel, ingenious, complicated. The masses of sober-minded men can not be

brought to favor a project like symmetallism,* which would make the standard consist of both gold and silver joined in one coin. It promises well theoretically; but it is quite too fantastic. Similarly, the multiple standard can never gain general support. It attracts the theorist, the faddist, the college professor, perhaps; but most practical people will have none of it.

A second characteristic which almost certainly proves the impracticability of any scheme with respect to the standard, is that it requires international action. Most nations are bound to look on the determination of the standard as too vital, and, so to speak, too personal, a matter, to be arranged by concert with other nations. Every effort to bring about a union more inclusive than three or four neighboring states, closely connected in language and commerce, has proved futile, has found each jealous of any scheme which involved binding it to act with others in this matter. This consideration alone is almost sufficient to justify us in ignoring the scheme of international bimetalism, so much advocated a few years since.

When it comes to economic practicability, it is easy to reach definite conclusions on particular schemes, though not easy to lay down principles. Generally speaking, schemes are economically impracticable because they fail sufficiently to take into account natural laws. Let us consider one or two special cases. It is the substantially unanimous opinion of specialists that bimetalism limited to a single country—national bimetalism—is economically impracticable. Doubtless the legal conditions of bimetalism can be maintained—the two metals can be given the status of free coinage and full legal tender—; but actual bimetalism—equality of value between the two kinds of money and their concurrent circulation—is out of the question.

*See page 42.

In the first place, equality of value can not be maintained. The argument runs as follows. Equality in value between the gold bullion in a dollar and the silver bullion in a dollar could not permanently be maintained, so long as there is any considerable market for them outside the limits of the single country under consideration. Such has been the uniform experience in the past; and the causes at work make such a result inevitable. The two metals are subject to different conditions as respects the demand for them in the arts, the amount used as money, the costs of production, and so on. Their value ratio is almost never the same, two months in succession. It is, therefore, impossible to maintain equality of value between the *bullion* in a silver dollar and the *bullion* in a gold dollar. But, if gold and silver dollars are not equal in value as bullion, no more will they be as coins; since, when both are freely coined, their coins will show the same value ratio as the bullion in those coins. That is, under a bimetallism which is merely national, we can not expect to maintain the equality of the two kinds of coin.

But, in the second place, if equality of value can not be maintained, concurrent circulation can not be maintained. For, when inequality in value arises, the dearer money will be displaced as standard money and will go to a premium, Principle 6, Chapter V; and, having gone to a premium, it will disappear from circulation, Principle 7, Chapter III. That is, actual bimetallism,—bimetallism which involves the equality in value of gold and silver coins, and their concurrent circulation,—will have ceased to exist.

As to whether *international* bimetallism is or is not economically practicable, there is still difference of opinion. Perhaps the majority of economists would agree that, provided the league of nations going into the scheme were large enough and the ratio chosen not too wide of the market, the system could be maintained for a considerable length of time. The difference in the two cases which ex-

plains the anticipated difference in results, is that, under an international bimetallism maintained by practically all the great countries, there would be almost no world market of silver and gold outside the territory where their ratio as money was fixed. Hence, the metal which naturally was worth more would have no better place to go to, and so, would stay in circulation. Whether this reasoning is sound or not could never be settled except by a gigantic experiment, and that, as we have already seen, is politically impracticable. The powers which have the determining of such matters will have none of it. Twenty years devoted to agitation, through international conferences, bimetallic commissions, and diplomatic negotiations, have convinced the most sanguine that bimetallism, through international action, is impossible.

But a good standard needs not only to be attainable, but also to be attainable *at a reasonable cost*. The process of its introduction ought not to work great injury to society generally or to particular classes of persons. Doubtless circumstances can be imagined under which it might be our duty to introduce a particular system, even at great cost: but the advantage, or even necessity, must be unmistakable. At the very least, all must recognize this as a most serious objection to a proposed change, that it involves great immediate injury to some class of persons or even to the community as a whole. Accordingly, it was not enough in 1896, when the proposition to substitute silver for gold was before the country, to say that silver would prove just as good a standard as gold when once we had established it. It was necessary also to show that the process of transition would not involve disaster.*

*This was effectively brought out in a cartoon which represented a fleet of boats in the Niagara river above the falls with some one below the falls inviting the mariners to come over, assuring them that there was just as good sailing below. Perhaps there was; but how to get there and have anything left to sail, presented a serious problem.

The chief evil to be feared from the introduction of a new standard is unmerited loss to one or other of *the parties to fixed contracts*. To avoid this danger, the chief requirement is that *the new standard shall be continuous in value with the old*. For example, if a nation which had a silver standard during the years of the fall in that metal, changes to gold, it should take an amount of gold sufficiently small to keep the value of the dollar as small as it was at the time of the change. On the other hand, if a nation which has had gold during the same period, changes to silver, it should take an amount of silver sufficiently large to keep the value of the dollar as great as that of the old. We can not, without gross injustice, pass immediately from a dollar which costs the labor of one day, to a dollar which costs the labor of two days, nor from one which will buy twenty pounds of sugar, to one which will buy only ten pounds. A sudden increase in the value of the dollar, as measured in its cost, must work unmerited injury to all debtors, all persons with fixed money obligations. A sudden fall in the value of the dollar, as measured in goods, must work unmerited injury to all creditors and to all recipients of fixed incomes. Consequently, when a change in standards must be made, care should be taken to avoid both these results. *The new should be continuous in value with the old.*

Recent monetary changes have brought several opportunities for the application of this principle. Thus, a few years since, Russia and Japan gave up their former standards, which were paper and silver respectively, and adopted the gold standard. In both cases, the old standards had fallen in value from 40 to 50 per cent as measured in gold. That is, the Russian rouble, which forty years ago meant about 80 cents in our money, had come to mean about 50 cents. So the Japanese yen, which once was worth about one dollar in our money, had fallen to about fifty cents. Further, both nations had, at one time or another, coined

gold money corresponding in value to the old standard and, hence, much more valuable than the present standard. When it was decided to introduce gold, the question was, Should as much gold as formerly be put into the rouble or yen, so that each should mean just what it did before the fall of silver, or should a smaller amount of gold be used,—just enough to make a rouble or a yen equal to the rouble or yen actually in use when the change was made? Quite properly, both nations decided to pursue the second course. For the other plan would have worked great injustice to all debtors, by bringing about a sudden and great advance in the value, or cost, of the monetary unit; while the alternative chosen wrought no injury to any one.

An illustration of the opposite case would have been furnished by the United States, if the policy advocated by one party in 1896 and 1900 had been approved at the polls. The dollar would have suddenly dropped in value 40 or 50 per cent, thereby working very great loss to all persons depending on fixed incomes. Only national extremity of the direst sort could excuse such a revolution. Of course, this is not to say that the introduction of a silver standard would have been unfair, provided either that the amount of silver in the dollar were increased so as to bring it to par with the existing dollar, or that all existing obligations were made payable in the old dollar. It is merely the *great and sudden change* in the meaning of the dollar of contracts which could not be justified.

We ought, hardly, to leave this topic without *denying the validity of an exception* to this maxim that a new standard should be continuous in value with the old, which many people consider legitimate. That alleged exception is, that a country is justified in changing to a new standard very different in value from the old, *provided the old has already experienced an equal change in the opposite direction*. Such an exception is entirely unwarranted. The fact that, under the silver standard in Japan, the yen had fallen

fifty per cent in value, could not justify changing to a gold standard so adjusted as to double the value of the yen. Doubtless creditors had suffered undeservedly from the fall of the old yen. But this was a result of the natural working of the system, for which no one could be justly blamed. Further, they had entered into their various contracts with full knowledge of this possibility. They had loaned yens fixed in value by silver, in exchange for the right to receive yens fixed in value by silver. They could not fairly claim compensation in a new sort of yen. It is a part of the natural order of things that the desirableness of a given contract to either of the parties thereto will alter with altered circumstances. When a capitalist lent five hundred yen in exchange for a promise of the borrower to pay back five hundred yen four years later, he entered a relation which might work for him unexpected gain or unexpected loss, *in the perfectly natural working of things*. But he knew this at the time, and took the chances. He must in fairness abide by the consequences.

Obviously, the case is no different when the monetary unit *rises* in value, that is, when prices fall. If, in the natural working of the gold standard, the dollar had, during a period of twenty-five years, doubled in value, this would not have justified the introduction of a new standard applicable to existing contracts which would have instantly cut the dollar in two. Probably the fall in prices had worked some hardship to debtors, though, because of its slowness, much less than is often supposed. But, whether involving small or great loss, this is one of the unavoidable risks of money contracts. The debtor enters into the agreement, knowing this possibility. Doubtless this particular risk should be reduced as low as possible by the choice of the best standard before the contract is made. But, after the engagement is entered into, there is no choice for an honest man but to abide by the results. Accordingly, the contention of some advocates of silver in 1896, that the proposed change from a one hundred-cent to a fifty-cent

dollar* was justified, as being a fair offset to the change which in fact had taken place from a one hundred to a two hundred-cent dollar,† was wholly fallacious. As will be pointed out a few pages later, the offset would not in any case have been a fair one, since the injury to creditors from an instantaneous lowering of the standard would be far greater than the injury to debtors from an equal change in the opposite direction *spread over many years*. But, whether a fair offset or not, the change could not be justified at all on such grounds. The doubling of the value of the dollar, —supposing that there had been such a change,—had taken place in the *natural working of things*. It was, therefore, a contingency necessarily involved in the making of money contracts. Consequently, this possible modification of the terms of his contract *was consented to in advance by the debtor himself*. In contrast, the proposed cutting of the dollar in two would be a purely artificial process, which, therefore, could not have been anticipated by either party and, so, could not have been consented to in the making of the contract. Consequently, the change would be an alteration of the terms of the contract to the disadvantage of one of the parties *without his consent*.

Finally, the soundness of this contention would be in no wise impaired, were we to concede the claims of many opponents of gold that the adoption of the gold standard was the work of a small band of conspirators, outwitting their fellow citizens. For it would still be true that, whatever had been done by a small band of conspirators, creditors, as a class, and debtors, as a class, had entered into existing engagements in good faith and with full knowledge of their meaning. In consequence, any alteration of the terms of those engagements without the consent of both parties thereto, would have been entirely without justification.

*Measured in gold at the value it had in 1896.

†As measured in gold at the value it had in 1873.

II. THE REQUISITES OF A GOOD STANDARD VIEWED AS ALREADY IN OPERATION.

We have noted the requisites of a good standard from the point of view of its introduction. We must now consider what is needed to insure its working well after introduction.

A. Stability.

From this standpoint, the first requisite to be mentioned is *stability*. A really good standard will be relatively *easy to maintain*. As has so often been pointed out, the very nature of the monetary standard makes its maintenance highly important. We can not afford to have the foundation of our monetary system suddenly torn out and another substituted. All society is permeated with a network of obligations between persons which run in terms of money. Having an unstable standard means having a state of things such that a new and unexpected meaning may be given these obligations at almost any moment. Such uncertainty as to the meaning of contracts must cripple all enterprise, hinder the investment of capital, check its influx from other countries, and generally paralyze industry. Now, in a degree, all standards are unstable. They must be maintained by conscious effort on somebody's part. But the degrees of instability among different standards are very various. Some could be maintained only by a miracle of skill and wisdom. Some need little attention. The latter is what we want.

As to the characteristics which enable a standard to realize this ideal of stability, three are most important. (a) The standard should be, as far as possible, the fruit of natural evolution and not something highly artificial, originating in human ingenuity. (b) In so far as the system is artificial, it should depend on national, rather than international, action. (c) In case of change, the new system should have substantially universal approval.

These statements scarcely need comment. Any system which is a growth, the product of evolution, tends to stand, is in fact hard to overthrow, just because it has behind it the *permanent, abiding, forces*,—a claim which is proved by the fact that it has been evolved. On the other hand, the system which results from the special efforts of men contending against natural tendencies, is weak, because man's conscious ideals, opinions, desires, easily change, and thus the forces on which such a system depends, change. Again, there can be no doubt as to the desirableness of depending on *national*, rather than *international*, action. The inherent instability of systems which can be maintained only by *international concert* is evident. Nations are free to change their minds in dealing with each other; they are likely to have abundant reason to do so; and, as all experience shows, they frequently yield to the temptation. We surely do not want a standard built on such shifting sand. This is not to say that nations should not agree on a common standard, but, only, that the standard should not be one which depends for its stability on the agreement. Finally, a new system should have substantially *universal approval*; because one introduced at the will of a bare majority is likely to be thrown out at any time by the *reversal of the majority*.

The considerations just advanced weigh much against several familiar candidates for the position of standard. Thus, the multiple standard, symmetallism, and even international bimetallism are all too artificial, too ingenious. Again, international bimetallism confessedly depends for its maintenance on continued concert of action among jealous and often unfriendly powers. For nearly all advocates of that system admit that actual bimetallism can be realized only by the united action of all the great powers,—that the withdrawal from the union of any one of three or four nations (England, Germany, France, and the United States), would probably cause the break-down of the system. International bimetallism, therefore, even if practicable, would be very undesirable, because unstable.

B. Constancy in Absolute Value.

The second requisite of a good standard, viewed as already in operation, is constancy in *absolute value*. By this is meant that the standard should be such that, under its working, all those changes in the amount of goods or services purchasable with a unit of money *which are due to causes working directly on money or the standard itself*, are shut out. This obviously implies that it is not essential to a good standard that it should shut out changes in value due to causes *not* working directly on money or the standard. To illustrate concretely, the requirement here set forth tells us that money ought not to be suddenly lowered in value, i. e., general prices ought not to be raised, by a great inflation of the paper money, as in France during the Revolutionary period or in the United States during the Civil War; it does *not*, however, forbid a fall in money, i. e., a rise in prices, due to the fact that goods generally, not including money, have become more difficult to produce. In like manner, the principle before us condemns a sudden rise in the value of money, i. e., a fall in general prices, brought about by a rapid contraction of the currency or the adoption of a new standard much higher than the old; but it does *not* try to exclude a rise in money, i. e., a fall in prices, due to the fact that the real cost of producing goods has declined.

So much for the *meaning* of the doctrine that a monetary standard should be constant in absolute value. What now are the *grounds* on which the maintenance of this doctrine rests? *Why* do we hold that a standard should be constant in absolute value? *Why*, further, that it need *not* be constant in merely relative value? We will begin with the former question. First, we will take a moment to comment on a fallacious argument for the doctrine which often comes to the front in popular discussion. Bluntly stated, it is this: every rise in money, i. e., fall in prices, *in itself* makes

all owners of property just so much poorer; while every fall in money, i. e., rise in prices, in itself makes every property owner just so much richer. Though perhaps no one would be willing to defend the doctrine when expressed thus flatly, plenty of people make statements which imply their adherence to it. Thus, a few years ago in a public discussion a well-educated Michigan editor declared that any man who owned a farm five years before, which was then worth \$10,000, if he still owned it, had in the interim lost two or three thousand dollars, all because of the gold standard; since, in the general fall of prices due to that standard, the price of his farm had declined to \$7,000 or \$8,000. Similarly, a prominent politician declared that, *simply through the general fall in prices*, every merchant had lost forty per cent of his capital, because goods worth \$100,000 had come to be worth only \$60,000.

Now, of course, this was all quite wrong, even if we admit the correctness of the statistics. If there had been a really universal fall in prices, then, *unless a farmer or a merchant were in debt*, the change in the money value of his property would have made no difference in the amount of his wealth. A universal fall, or a universal rise, in prices, *by itself*, causes neither loss nor gain to any one. If certain other conditions are present, it will work immense harm; if they are not present, the change in prices has no real effect whatever. It is simply a case of changing the unit in which our wealth is measured; and this, of course, accomplishes nothing. Thus, a pile of wheat is just as big, when we measure it in bushels and find there are fifty bushels, as when we measure it in pecks and find there are two hundred. Similarly, a farm will raise just as much produce whether it is rated as worth ten thousand dollars or eight thousand; or, if the farmer wishes to sell it and use the proceeds to buy another farm or other goods of any sort, the new price, eight thousand, will now buy

as much as the old price, ten thousand, would have bought.* Just so it is with the merchant's stock of goods. Since, by hypothesis, the fall of prices is universal, the sixty thousand dollars received for the goods will now go just as far in buying new stock, as one hundred thousand would have gone before the change. There is, therefore, neither loss nor gain from a universal fall of prices *by itself*, i. e., *provided no other conditions come into the case*. What those conditions are will appear as our discussion proceeds.

We have disposed of a fallacious argument for constancy of value in money; let us now go on to consider those arguments which will stand examination. Of these, the first and most important is the following: changes in the value of the standard *cause unexpected changes in the significance of all money engagements*, and, therefore, *in effect change the terms of such engagements*, after they have been made, and that to an extent to which the parties to those engagements can not be supposed to have consented. Thus, let us suppose that in 1860 Mr. Morris loaned to the Portland Cement Company \$3,000, payable in four years. Now, to Mr. Morris that sum of money had at the time of the loan a certain significance in power to secure the necessities and comforts of life. It would perhaps pay his family expenses, on the scale of living to which he was accustomed, for a whole year. Further, in 1860 he doubtless had no other expectation than that, four years later, this sum would have substantially the same power to secure goods that it then (in 1860) had. But the issue of legal tender treasury notes wholly altered the situation. By 1864, the dollar had fallen in value more than fifty per cent. In consequence, the \$3,000 returned to Mr. Morris would buy no more than \$1,500 would have bought at the time the loan was made. In effect, therefore, Mr. Morris received back

* By hypothesis we are dealing with a fall in the price, not of any particular piece of land or even of land in general, but of every kind of goods.

only half what he had loaned, and what he understood himself to have loaned. Here, then, is a great and manifest change in the meaning of a contract, without the consent of at least one of the parties thereto.

The above illustration brings out the fact that a change in the terms of a contract seriously harmful to one of the parties, can be brought about by a *fall* in the value of the standard. To make an illustration showing how the terms of the contract may be changed by a *rise* in the value of money, we have only to take the case of the merchant, on page 251, whose stock was supposed to experience a sudden fall in money value from \$100,000 to \$60,000, and add the hypothesis that he *had bought his stock on credit*. In that case, he would obviously lose \$40,000, since his debt expressed in money would still be \$100,000, though the proceeds in money of the sale of his goods would be only \$60,000.

On this point,—the effect of changes in the value of the standard on money engagements,—I have chosen illustrations from the relations of debtor and creditor. It, perhaps, ought to be added that the reasoning applies just as well to other money engagements. Every general fall in the value of money must diminish the value of salaries, fees, annuities, and, in short, of all *claims to receive* money. On the other hand, every rise in the value of money is likely to increase the burden of salary-payers, fee-payers, annuity companies, and, in short, of every one on whom rests an *obligation to pay* money.

In the argument just given for keeping the value of the standard constant, namely, that, only so, can we avoid changes in the terms of money engagements after those engagements have been entered into, we doubtless have the most weighty reason for insisting that the standard shall be possessed of this characteristic. But other reasons ought not to be overlooked. Constancy in the value of the standard is important, in the second place, because among per-

sons having business relations with one another, unmerited gains come to some, and undeserved losses to others, even though there are no money engagements involved, *through the fact that a change in prices due to causes acting on money does not affect all goods and services in the same degree.* Thus, if the money of a country is being so rapidly inflated that it falls in value, this will usually show in the prices of goods much sooner than in the wages of labor, with the result that wage-earners have to pay more for goods though getting no more money to pay with, while employers get higher prices though not incurring greater costs. This principle, that prices and wages change at different rates, has furnished one of the stock arguments for a standard which slowly falls in value, particularly for silver in Mexico, Japan, and India, and for bimetallism in Europe. Such a standard, it was said, furnishes a perpetual stimulus to industry. The manufacturer finds his prices rising to correspond to the fall in the standard, while the wages he pays remain at the old level, or at least rise more slowly than the prices, thus, giving him a bonus in the shape of extra profits. It hardly need be pointed out that this is not exactly the sort of argument to address to laborers. Surely it is fairer to have a standard which neither falls nor rises, and, therefore, hurts neither laborer nor employer.

A third reason for demanding constancy of value in a monetary standard is to be found in the fact that such constancy of value is needed to keep industry in general in a reasonably healthy condition,—to weaken, at least, that tendency which industry shows to alternate between periods of excessive trading and periods of industrial stagnation. At present, doubtless, this tendency can not be eliminated; but, in so far as abatement is possible, it surely ought to be realized. But all agree that a rapidly falling standard aggravates the overtrading movement, while a rap-

idly rising standard aggravates the reaction. These conditions, therefore, ought, as far as possible, to be shut out.

I have explained why a standard ought to have constancy in absolute value. I must next give the most weighty reasons for holding that constancy in *relative* value is not necessary; or, in other words, why we are not required to shut out changes in the purchasing power of money due to causes not acting directly on money or the standard. To illustrate, in 1861 a civil war broke out in the United States which largely shut off the world's chief source of supply for two articles of much significance in the world's market, cotton and tobacco. In consequence, between 1861 and 1864 the English (gold) prices of these articles rose from three to five hundred per cent; and, although many other prices fell slightly, the general result was an average rise in English prices of about thirty-eight per cent. Now, the doctrine here supported declares that, in the case described, it was not reasonable to insist that the old level of prices should be maintained,—not reasonable to insist that, if need be, the money stock of England should be contracted until prices had fallen back thirty-eight per cent. In fact, the sound doctrine goes even further and declares not only that the action proposed is not required, but also that it is forbidden by both justice and expediency.

The general argument in support of this position can be stated in a sentence. Undertaking to shut out changes in the value of money which are not due to causes acting on money is illegitimate, because changes of the sort considered work no harm, or an amount of harm which is at least no greater, usually less, than the harm which would result from an attempt to shut out those changes. Let us see how this statement is justified, in two or three of the most important cases.

First, take the case of a change in the level of prices due to a great change in the output of some one or two

commodities, whether this change be a falling off or an increase. Thus, what about the case of the sudden advance in cotton and tobacco mentioned above? Doubtless, the change worked some harm. Consumers generally had to pay more money for cotton and tobacco though their incomes were no larger than before. But what would have been the result of bringing the average of prices back to the old level by lowering all prices 38 per cent? Doubtless, consumers generally would have been pleased to buy cotton and tobacco 38 per cent cheaper. But, then, look at the other side. First, their own goods from which they got the money to buy cotton and tobacco would have been 38 per cent cheaper,—making pretty nearly a stand-off. But, secondly, if they employed any quantity of borrowed capital,—as is most common,—the 38 per cent fall in the prices of their products would not have been accompanied by any corresponding fall in their money obligations. They would still have had to pay 100 cents on the dollar, although receiving for their goods only 62 cents on the dollar. Thus, the plan of arbitrarily lowering all other goods in order to neutralize the rise of cotton and tobacco, while of little advantage to people generally, would have worked positive and great harm to most producers who employed borrowed capital.

A second case of change in the general price level *not* due to causes operating on money is to be found in the rapid and steady rise which characterizes a period of recovery in business, continuing till the climax of industrial activity is reached, and the rapid fall which marks the period of reaction. As already explained in another connection, the chief cause of these phenomena is a change in credit and business confidence. As long as these are increasing, demand is constantly overtopping supply and so raising prices; when these decline, supply overtops demand and so depresses prices. Can we reasonably insist on having a monetary standard which eliminates phenomena of this sort? Surely not.

First, the result sought is, to say the least, *of doubtful advantage*. The early rise and the later decline in prices are perfectly natural phenomena, expressing the real facts of value as determined by demand. As a physician would say, they are physiological, rather than pathological, phenomena. The presumption surely is that, being perfectly natural, they have some part to play in industrial life and should be let alone. But, not to dwell on this point, it is enough to say that, whether desirable or not, the scheme is quite *impracticable*. It is impossible to find a standard, having any chance of adoption, which will keep prices from rising during a boom and declining when reaction sets in. Gold, silver, bimetallism,—all of these have been tried and have failed. The only system which pretends to be able to do the work is what we have called the Multiple Commodity standard, that is, a system in which only paper money would be used,—the value of that money, as measured in commodities, being kept constant by artificial regulation. But that system, as so often remarked, has no chance of adoption, even were it desirable. The majority of ordinary voters will say that it is too fantastic; it would cut us apart from other nations; it would give too much chance for manipulating the currency in the interests of special classes; and so on. On the other hand, if it really promised complete success, it is hard to believe that many of those who have thus far advocated it would continue their support. They want it, seemingly, because they expect it to shut out *the decline* in prices which marks the reaction. Were they convinced that it would be worked so as to shut out also *the rise* in prices which belongs to a boom, they would almost certainly oppose it.

But, by all odds, the most important case of a change in the price level not due to causes working through money, is that of changes due to alterations in the real cost of producing goods. Such changes, a really good standard is not called on to shut out; because if real costs are in-

creasing, it is legitimate for prices to rise, that is, for the value of money to fall, and if real costs are diminishing, it is quite legitimate for prices to fall, that is, for the value of money to rise.

Let us take the first case. Suppose that because of a decline in industrial efficiency, as in the western world after the fall of Rome, the production of all classes of goods should rapidly become much more costly, as measured in real sacrifices, than it had hitherto been. Could creditors, annuitants, and other claimants under money contracts, reasonably insist that something should be done to hinder the rise in prices natural under such conditions? Could they reasonably claim the right to receive just as much in goods as they would have received but for the industrial change? Very doubtful, to say the least. By hypothesis the change in conditions is general—every one must be satisfied with smaller returns for his exertions. The creditor or the annuitant can not reasonably demand that his case be made an exception. Further, the hardship involved will be less than seems at first sight. Since all productive capacity has declined, every man has been compelled to readjust his scale of living, to be content with satisfying fewer wants and less completely satisfying those. Accordingly, the smaller amount of goods which the creditor can now get for his money will perhaps bear just as large a ratio to his total consumption as the larger amount of goods did formerly. It will be no great hardship that the proceeds of his repaid loan will no longer buy silks and diamonds; since he has already given up silks and diamonds as a part of his living.*

* This discussion suggests a modified form of the commodity ideal which has a truer claim to absoluteness than the original. It is not reasonable to demand that the dollar shall at all times buy the same amount of the same kind of goods. We should rather insist that it have the same relative efficiency in furnishing a living in the same social position. If society has found it necessary to put up with a lower standard of living, the purchasing power of the dollar ought to fall off accordingly. So, if through increased power over nature people have come to live better, the power of the dollar ought correspondingly to increase.

But, if we can not reasonably complain of a *rise* in general prices when this is the result of an increase in costs, no more can we reasonably complain of a *fall* of prices due to a decline in costs. Here we really need to distinguish two sub-cases: (1) where the decline in costs affects all producers of a commodity to substantially the same extent, and (2) where the cost to those producers who are in a position to determine prices falls, but the cost to other producers does not fall. The first of these cases would be illustrated by the introduction into farming of machinery which helps almost all farmers; the second, by improvements in transportation which bring remote farms nearer the market, but do not help near-by producers.

Now, in the first case, it is quite clear that the debtor producer can not properly insist that something shall be done with the monetary system in order to stop the fall in prices; *since the fall works no harm to him*. To make this clear, we need only analyze carefully the process by which a debtor suffers from falling prices. It is simply this. As a producer of some particular commodity, the debtor uses his credit to cover the costs of production, those costs being such as to require the continued maintenance of present prices to cover them. Having done this and having brought his goods to market, he finds that the price of those goods has fallen, and that, consequently, the proceeds will no longer cover costs, and, therefore, will not pay the debt incurred in producing the goods. Such are the conditions necessary to make a fall in prices really harmful to debtors. But these conditions plainly are not present in the case considered in this paragraph. The fall of prices here involved, is one due to the fact that the cost of producing goods has declined to substantially all producers. Here surely there can be no chance for loss. It is true that, as before, the producer has gone in debt for the costs. Further, there has been a fall in price since the productive process was started. But by hypothesis that fall in price was caused

by, and so subsequent to, a decline in the costs of production. Consequently, the new selling price is adequate to cover the costs, and the proceeds of the sale will cancel the indebtedness incurred in production. That is, a fall in prices due to a decline of costs common to all producers of any commodity, works no harm to debtor producers.

So much for the first case. What now shall we say about the second, where the cost to those producers who are in a position to determine prices has fallen, but not the cost to other producers? When, for example, the fall in ocean freights made it possible for the wheat of Australia to undersell in the markets of England the more costly portion of the home-grown product, the cost of producing wheat for the English market declined to the growers of Australia but not to those of England. In such a case, obviously, we can not say that no debtor producers suffer harm, from the fall in the price of wheat. Some do; some do not. Can those who do lose, reasonably insist that we so adjust the monetary system, as to keep general prices constant and, so, hinder the particular prices in which these persons are interested from falling?*

(1) Such action would necessarily work undeserved harm to many other members of the community in no way responsible for the change; and, between *permitting* an injury which is brought by natural causes upon one class of persons and *consciously causing* an injury to another class of persons in order to save the former, the decision of society must, generally speaking, be in favor of the former alternative. (2) The action proposed would hinder that *process of readjustment* in economic matters which changed conditions have made necessary and which the fall in prices will naturally bring about.

The first reason surely needs little elaboration. It cer-

* Would keeping general prices *constant* be sufficient to keep the particular prices in question from falling?

tainly can not be doubted that an artificial inflation of prices, adequate to restore the particular goods involved to their old level, would work much injury to all creditors and, in general, to all persons dependent on fixed, or substantially fixed, incomes. Nor is there greater doubt with respect to the rest of the argument, viz., that society can not properly attempt to correct evils of natural origin by any procedure which involves creating artificial evils of equal magnitude. We have no right to rob Peter in order to restore to Paul what nature has taken from him. Paul's loss is, in the old-fashioned phraseology, a dispensation of Providence. We were not responsible for its happening, and can not justly be called to account for not finding a remedy. But, if we rob Peter to make Paul good, we shall certainly be responsible for his loss, and, hence can properly be condemned.

The second reason for non-interference in the case before us requires somewhat fuller treatment. To manipulate the monetary system so as to keep up prices artificially "would hinder that process of readjustment in economic matters which changed conditions have made necessary, and which the fall in prices will naturally bring about." That some readjustment has been made necessary,—that the English producers who can no longer compete with their Australian rivals have been put into an abnormal position,—this is surely evident. The lowering of transportation costs has brought into competition with them, new lands on which the cost of production is so low that the old lands can not go on producing wheat at the old cost, and still pay the old rent or earn the old profit. Perhaps, if their rent should be lowered, they would be able still to raise wheat profitably. But it may be that, even with all rent taken off, there is no profit in this crop. Quite likely the only right course, in such a case, is to give up wheat raising altogether, and devote the land to some product more valuable than wheat, which more valuable product the improvements in transportation have enabled the farmers in question to mar-

ket in some great city hitherto too far away.* But, however that may be, *some readjustment* is certainly necessary.

But, not only have the old producers been put into an abnormal position requiring readjustment, the *natural means for bringing about this necessary readjustment is a fall in prices*. It is like the red flag which tells us that danger lies ahead; it is the signal which directs the producer to make the changes which altered conditions have rendered necessary, to try another crop, to remove to other lands, or to do whatever the circumstances demand. Further, the very loss in profits which the fall in price causes, is the spur which *drives* the producers to make these changes. Conceal the real conditions, by an artificial raising of prices—remove the motive which would cause the producer to change, by lessening the loss which quite properly follows as the penalty of continuing to do a foolish thing; and you really work harm to the producer himself, as well as to every one else. For you postpone so much longer that process of readjustment which alone can bring equilibrium.

I hardly need add that, in insisting on the propriety of letting prices fall under the conditions in question, I do not intend to deny that this means some hardship to the group of producers immediately interested. Plainly, they can not effect the necessary readjustment without some loss. But, then, this is characteristic of all industrial life; every change, even every improvement, means loss to some one in the readjustment. The power loom brought undeserved suffering to many weavers; the railways put the stage coach out of commission; pipe lines ruined many teamsters of the oil regions; and so on. But these chances are discounted by those who go into any business or profession. The investor in mines makes allowance for the fact that explosions and fires are likely to cause him great and unexpected loss-

* Thus it may be that their proper course is to raise small fruits or garden stuff.

es; the water-transportation companies allow for the losses by storm; and so on in every industry. Year in and year out, farming, mining, commerce and manufacturing must pay,—everything being taken into account,—each about as well as every other; since otherwise the unprofitable ones would be deserted. It is reasonable to insist that each particular industry, when its bad turn comes, shall, generally speaking, bear its own burdens,—that it shall not try to shift them to some other class or to society generally, by making fundamental changes in the monetary system.

The principle we have just been discussing was of considerable importance, in connection with the heated controversy over the gold standard which occupied the last quarter of the nineteenth century. In the course of the controversy, it came to be generally admitted, even by the supporters of gold, that between 1875 and 1895 a considerable fall in general prices had taken place. But the question still remained; what was the *cause* of this fall? The opponents of gold answered that it was due to the increasing scarcity of gold. In that case, the fall was a real hardship to producers generally, and called for at least an honest attempt to find a remedy. The friends of gold, on the other hand, quite generally held that the fall in prices was rather to be charged to the increased use of steam, to improvements in machinery, to cheapened transportation, in short, to diminished cost of production. If they were right, the change in question could not properly be urged as an objection to the gold standard, according to the view which has just been set forth.

In the preceding discussion, I have tried to show that we can reasonably demand that a standard shall show constancy of value, only in the sense that it be free from such changes as are due to causes acting on it directly, or on money. I must not leave the topic without remarking that it is possible, and indeed not uncommon, to exaggerate the

importance of constancy of value even in this sense. Not a few men, at once very able and very learned, have indulged in anticipations with respect to the dreadful consequences to be expected from a continuously falling, or a continuously rising, standard which it is not unfair to characterize as hysterical or even ridiculous. The fall of Rome has been seriously attributed to a fall in prices caused by the scarcity of the precious metals. The industries of the western world during the last quarter of the nineteenth century have been likened to a stag in the embrace of a boa-constrictor which was slowly but surely squeezing the noble beast to death.* Now, this is, of course, inexpressibly silly. As a matter of fact, the progress of the world's industries during the period in question was almost literally unparalleled. All such talk rested upon a gross exaggeration of the importance of constancy of value in a monetary standard. Doubtless this characteristic is desirable and important. But, then, perfection is not to be looked for in any social institution. Some degree and kind of variability in the standard is entirely consistent with high industrial prosperity and substantial justice to all classes. In a word, it is necessary to append to our doctrine that constancy of value is vital to a good standard, some decided qualifications. Let me now suggest the most important of these.

First, it should be noted that *slow, gradual*, changes in the real value of money, i. e., the level of prices, do not constitute a serious defect in the standard. Changes must be rapid enough so that a notable price fluctuation is effected within the lifetime of contracts; for, only on that condition, can they modify in any notable degree the signifi-

*Listen to this from an eminent professor of Political Economy, speaking at the Monetary Conference held at Brussels in 1892: "that baneful, blighting, deadly fall of prices which for nearly thirty years has infected with miasma the economic life-blood of the whole world."

cance, or the burden, of those contracts, and so work hardship to one or the other of the contracting parties. Thus, creditors, wage-earners, and salaried persons object to rising prices, because thereby the real power of their incomes to satisfy their wants is diminished. But, if the contract covers only a year and during that time prices rise only two or three per cent, a creditor or a salaried person must be rather unreasonable to find serious fault with the standard. Advances in price which have their origin quite outside the monetary system, and which amount to ten, twenty, and even fifty per cent, frequently take place in the chief articles of consumption such as meat, flour, and butter. These advances every one recognizes as natural and unavoidable. Such being the case, to grow hysterical because of a two or three per cent advance in general prices having its origin in monetary conditions, seems little short of ridiculous.

"But," the reader may object, "all contracts are not for so short a time as three to six months." True: mortgage indebtedness averages about four and a half years; and manifestly a given change in prices will modify such contracts much more than those of ordinary mercantile life. Nevertheless, the principle applies to this, as well as to the preceding, case. A fall in the level of general prices, in order to be significant, even to the mortgage debtor, must be fairly rapid. Otherwise, it is likely to be trifling, when *compared with the natural fluctuations* in the price of the particular commodity upon which the debtor relies to pay off his mortgage. To illustrate, take the case of wheat, which in many parts of the United States is the chief dependence of the farmer for his money income. As a slight investigation of price statistics will show us, wheat prices fluctuate far more widely than, and quite independently of, general prices. Thus between 1884 and 1888, though general prices fell almost exactly five per cent,—wheat rose forty-three per cent. So between 1893

and 1897, though general prices fell ten per cent, wheat rose fifty per cent. On the other hand, between 1879 and 1883 general prices rose about ten per cent, while wheat fell seventeen per cent. In these cases, general prices and wheat prices moved in opposite directions. Sometimes they move in the same direction; but, wheat, of course, goes much faster than goods generally. Thus, between 1891 and 1896, there was a fall in prices of about ten per cent, while wheat fell about forty per cent.

Now, all this goes to show that it is unreasonable for the farmer to complain of small fluctuations in the level of general prices, or to insist on maintaining that level absolutely constant. Thus, when the price of wheat rose forty-three per cent, though general prices had fallen five per cent, the debtor farmer found his burden much lightened, in spite of the fall in prices. To have restored the former level of prices by manipulating the currency, would have favored unduly one already much favored by fortune. On the other hand, to have insisted on returning to the former level in the case when general prices had risen ten per cent while wheat had fallen seventeen,—to have contracted the currency so as to cut down the ten per cent rise and thereby to have increased the fall of wheat to twenty-seven per cent,—such a course would have meant the arbitrary increase of a burden which fortune had already made too great. Surely no one would favor this; though it is obvious that, if we are bound to maintain one constant level of prices, we must do so when it *hurts* the debtor as well as when it *helps* him.

Let us now make one or two applications of this principle, that changes in the value of the standard must be fairly rapid to be of material importance. During the currency struggle of 1896, it was common to argue that, because the dollar had risen since 1873 to be really worth two dollars, it would be only fair to cut that dollar in two by going to silver. That is, the proposed change would be,

not a revolution, but a *restoration*. Manifestly such reasoning will not gibe with the doctrine just laid down. If we suppose that the dollar had really advanced one hundred per cent in value during those twenty-three years in question,—though in fact it had advanced only about two-thirds of that amount,—this would not justify a reversal of the process, effected *in a day*. To throw a man out of a ten-story window in revenge for his having hustled you down his front steps could hardly be called exact justice. Even if money had risen one hundred per cent, i. e., prices had fallen fifty per cent, in twenty-three years, this would mean a fall of but little over two per cent a year, and, as we have just seen, would work comparatively little hardship. Compare with such a process, the lowering of the dollar fifty per cent, that is, raising prices one hundred per cent, *instantly*! Surely it would be hard to conceive anything more outrageously unjust.

But the principle before us not only shows the unreasonableness of a scheme which would *instantly* cut the dollar in two, as a proper offset to a doubling of value which had occupied twenty-three years, it also shows that the whole indictment of the gold standard had little foundation,—was based on unreasonable ideals as to the degree of steadiness in value which can fairly be demanded from a standard. Between 1873 and 1896, prices had fallen perhaps forty per cent, less than two per cent per annum. Now, as was remarked a few pages back, there is a fair chance of maintaining the contention that this gradual fall of prices was no more than would follow as a natural and desirable consequence from a decline in the cost of production,—in which case it would not constitute an objection to the gold standard. But, even if we admit that the whole fall was due to the relative scarcity of gold, it would not prove that standard to be seriously defective. For, changes in the value of money which occupy so long a period, and show so slow a rate, can not form a serious objection to any

standard. They are of no significance to commercial debtors, of little significance to farmer debtors,* and of considerable significance only in the case of a class of debtors who can be fully trusted to look after their own interests, viz., corporations, public and private, which carry a great volume of bonded indebtedness running for periods of twenty or thirty years.

Having said so much for gold, I am disposed to state the case almost as strongly for silver. While the latter metal is doubtless less steady in value, as measured either in commodities or sacrifices, than gold, it is not so unsteady as to make in consequence a particularly bad standard of value. The great objection to silver is that it is not the standard of the leading industrial nations, a fact which in our day is of much moment, as will presently appear.

The only standard which from our present point of view is really very bad is fiat money,—irredeemable paper. At its worst, it is almost intolerable. From 1862 to 1863 our greenbacks fell twenty-six per cent; the next year, thirty-five per cent; the next, thirteen per cent. And in the course of these years, within intervals of two or three months, they sometimes rose or fell, at rates several times faster than any of those named. Such changes work very great hardships, and nothing but political necessity of the clearest sort can justify a system which makes them possible.

A second qualification which we must put upon the demand for steadiness of value in a standard is this; seriously to impair the excellence of a standard, changes in value *must be quite irregular*. If money *steadily* rises, or *steadily* falls, throughout a series of years *at a moderate rate*, no serious harm will be likely to result. This is due

*The change in prices which hurt the farmer was not the slight fall in *general* prices, but the *great* fall in certain *particular* prices. See page 266.

to the fact that whatever happens with regularity can be anticipated, and whatever can be anticipated will be discounted by dealers. In the case before us, this means that during a period in which the value of money is rapidly falling, the rate of interest is likely to be rising, that is, capitalists are recouping themselves for the loss in principal by earning higher interest. On the other hand, when money is rising, interest will almost certainly be falling, and so the debtor producer will be reimbursed for any loss caused by the increase in the principal.

C. *Internationality.*

The third, and in many respects the most important, requisite of a good standard is internationality. The ideal standard is a world-standard,—one universally accepted. But, in the absence of any such standard, the most desirable is that which most nearly approaches the ideal. Especially, should our standard be international in the group of countries with which we maintain most intimate commercial and banking relations.

The principal grounds on which such importance is attached to having for our standard one which is in general use among the nations are the following. First, a common standard insures between the countries maintaining it, a *constant par of exchange*,—a matter of much significance to trade. Secondly, a common standard diminishes the element of risk involved in the international movement of capital, hence facilitates such movement, in some cases renders the burden of a debt easier to bear, and so on. Thirdly, a common standard permits the free flow of money into and out of the country, and, therefore, permits a deficiency in the stock of standard money to be made good by drawing on the supplies of other countries, and an excess to be relieved by export. Finally, a standard in general use is far more constant in value than one confined to a few nations.

Of these four reasons for choosing a standard common to the leading nations, the first probably most needs comment and explanation. Recalling a former discussion, we remember that the rate of exchange, i. e., the price of a right to claim money in some outside place, ranges between limits which are, say, two or three cents above, and two or three cents below, a certain middle price, the natural value of the money of the other place as measured in our money. This middle price, this natural value of the money of the other country, we call the par of exchange. In the case of England, this par is \$4.866+, because both England and America have the gold standard, and the English unit contains 4.866+ times as much fine gold as the American.* If we had a standard consisting of 371.25 grains of pure silver, and gold were worth 32 times as much as silver, then the English par would be \$9.74+; because 113 grains of gold would be worth 113 times 32, or 3,616 grains of silver, and 3,616 grains of silver would make \$9.74+ dollars containing 371.25 grains each.

Having now in mind the nature of the par of exchange, we see that this par can never vary between two countries using the same metal as standard, provided the amount of metal used is not changed by law. Twenty-three and twenty-two hundredths grains of gold will always be contained in one hundred and thirteen grains just 4.866+ times, and each grain of gold will have at the same time the same value as every other. But, if one nation has gold for a standard and the other has silver, the fact is very different. A grain of gold may be worth 32 grains of silver today, 35 grains tomorrow, 30 the next day, 40 the next, and so on. And every change in the silver value of gold, or the gold value of silver, whichever you please, must alter the par of exchange between a gold country and a silver country. Thus, if in the example which closed the

*English, 113 grains pure gold; American, 23.22 grains.

last paragraph, 1 grain of gold had been worth 40 of silver instead of 32, the par of exchange on England would have been \$12.17; since 113 grains of gold would then be worth 4,520 grains of silver which would make 12.17+ dollars containing 371.25 grains of silver each. If 1 grain of gold had been worth 45 of silver, the par would have been \$13.69+. And so on.

But, again, it is evident that, if we have a fluctuating par of exchange, we shall also have a more than normally fluctuating *rate* of exchange. For, normally, the rate can vary from par only about 3 cents each way and, therefore, can have a total range of variation amounting to only 6 cents.* But, if the middle point itself, the par of exchange, can vary, there is no limit to the fluctuations of the rate.

Finally, it is easy to see that such possibilities of fluctuation in the rate of exchange must greatly increase the risks of international trade. The importer can never know, at the time of ordering goods, what the exchange with which he will pay for his purchases will cost him. The exporter can never know, at the time of sale, what the exchange in which he receives payment will net him. Manifestly, importing and exporting, under such conditions, would, without some protective device, be highly speculative operations. As a matter of fact, when a country has a standard which causes constant fluctuations in the par of exchange on the countries with which its most important trade relations are maintained, the persons engaged in foreign trade make a practice of insuring themselves by buying or selling exchange† in advance. This, of course, improves the situation as respects the matter of risk, but increases the expensiveness of foreign trade. It is, thus, evident that we have a

* This assumes that we are still talking about London exchange, as estimated in American money.

†Or, what amounts to the same thing, buying or selling *the metal which constitutes the standard of the outside countries*,—usually gold.

weighty reason for choosing a standard in common use, in the fact that such a standard will secure a stable par of exchange with neighboring countries.

The second important argument for a standard in common use, that it diminishes the risk incident to international dealings in capital, must now receive a moment's attention. First, let us be clear that the risk is diminished. At first sight, one might imagine that any element of risk growing out of the maintaining of different standards in borrowing and lending countries would be eliminated by special contracts, i. e., capitalists in a gold country lending to people in a silver country would shut out all risk by requiring the insertion of a gold clause in the bonds. This, however, does not quite completely cover the case. In the first place, a special gold clause does not make the lender's risk as small as it would be if the borrowing country had a gold standard. There is always danger that the borrower will default on the contract,—whether by an act of downright dishonesty or through sheer inability to pay; and the danger from both of these sources is greater in lending to a country having a different standard than in lending to one which has the same standard. Thus, respecting the danger from dishonesty, it is far easier for a borrower to reconcile his conscience to refusing payment *in a standard different from that which obtains in most of his relations, than to repudiate the debt altogether*. But the case of sheer inability to pay is still clearer. If the metal which constitutes the standard of the borrowing country experiences a marked decline in value, measured in the standard of the lending country, the *difficulty* of payment is greatly *increased*. A corporation which receives its income in declining silver may presently find itself simply *unable* to pay either interest or principal.

But this last point suggests that a common, international, standard has the great advantage of diminishing the risk of *the borrower* as well as the lender. For, ob-

viously, the risk is not all on one side. The borrower may commit himself to engagements which were reasonable under the conditions prevailing when they were made, but which become otherwise when the conditions have changed. Now, it will often be true that one of the worst changes which can happen to him is a decline in the monetary standard obtaining in his country. His income, as measured in his own standard, is often substantially fixed, e. g., is determined by legally fixed transportation rates. If, then, that standard falls, his income inevitably goes with it. In consequence, that income is no longer able to meet the charges of a loan fixed by a standard which has experienced no such decline.

The third reason for choosing an international standard—that it permits the free flow of money between the country and neighboring countries—probably needs no elaboration at this stage. The discussions of the chapters devoted to the movements and distribution of money and to the principles determining the value of money, have practically anticipated what we should need to say here.

The fourth argument—that an international standard will be more constant in value—ought, perhaps, to receive a little amplification, though it also has been largely anticipated. The contention is, that, if we suppose gold and silver to be about equally steady in value,—barring the influence of their different positions as money,—nevertheless, as long as gold is the standard in general use among the great commercial nations while silver is used only by a few backward peoples, gold will tend to show more constancy of value. For this there are several reasons. First, any very extensive and fairly stable employment of a commodity tends to steady its value, for such employment secures for that commodity a steady demand. Its widespread use as money does this for gold. The demand for it does not experience so wide and sudden fluctuations as might otherwise be the case. In the

second place, the peculiar office of standard money involves keeping great stores of it in banks or public treasuries where its presence is known to the public and operates to steady its value. A very slight rise at any point will call out these stores. When a decline sets in, these stores temporarily swell. Finally, the peculiar nature of the processes by which changes in the value of money must be effected, necessarily makes such changes far slower and smaller than those which like conditions would bring about in any other commodity. This point, however, has been covered with sufficient fulness in Chapter VI, and, hence, will receive no further attention here.

The practical application of this discussion concerning the internationality of the standard is too evident to need extended comment. Any scheme which gives to a country a standard exclusively its own is at once shut out, unless reasons of most extraordinary weight can be advanced in its support. In our day, it is about as reasonable for one country to have a standard all its own, as it would be for a man to make a road all his own, going nowhere and connecting with no other roads, or as it would be for Michigan to have for its railway tracks a gauge three inches narrower than that used by neighboring states. Accordingly, such agitations as have for their object the adoption of a paper money standard, or the multiple standard, or symmetallism, are, for most men, at once shut out. The purely local character of such standards would make them entirely inadequate, however good they might be in other respects. The case of bimetallism or silver is scarcely any better. In fact, since, for one reason or another, gold has become the monetary standard of almost all civilized nations, we can not afford to choose any other unless we can find, in favor of such a course, reasons of almost impossible excellence. Gold may not be in other respects the best standard possible, but its international character, its world-wide prevalence, must furnish an argument for its maintenance able to offset

very many objections. To leave gold and go to silver,—to give up the standard of those countries with which eighty per cent of our trade is carried on and adopt the standard of those countries to which perhaps six or eight per cent of it belongs—to leave the group which includes Great Britain, France, Germany, Russia, and Japan, in order to join the group of which China and Mexico* are the chief members,—such a course, it would be difficult, almost impossible, to justify, by any conceivable argument.

*No longer true of Mexico (1906)

CHAPTER VIII.

THE PROPER REGULATION OF THE BANK NOTE CIRCULATION.

The chief problems offered to the student by the bank note circulation are these three: (1) How shall this kind of money be kept *at par* with standard money? (2) How shall the holders of such money be *secured against loss*, should the issuing bank default on payment? (3) How shall this money be given that *elasticity* which will enable it to play well its part, as that constituent in the system which is depended on to adjust the stock of money to the need for money? Parity, ultimate security, and elasticity,—these are the three principal characteristics which wise regulation seeks to secure for the note circulation.

I. THE PARITY OF BANK NOTES.

In general, all methods of insuring parity may be described as devices whereby a guarantee is given to the note-holder that, in case he cannot use the bank note in the ordinary course of trade, he can easily make some other disposition of it which will not involve loss. Under that condition, everyone is willing to become a note holder and, so, is willing to accept the note at par.

The principal devices coming under this description are two: (1) making the note a valid tender in some important relation, and (2) providing for its easy, instant, and constant convertibility. It is doubtful whether the former could ever, by itself, maintain parity. Probably, however, it contributes greatly to the result, when the conditions for secur-

ing convertibility are inadequate, as is commonly the case. In the national bank system of the United States, the notes are a legal tender in some payments to, and by, government, and they are always a legal tender to national banks. In view of the fact that getting them redeemed involves some trouble and expense, it is not impossible that, without these legal tender prerogatives, they would be at a slight discount, when far from the locality of the issuing bank or the United States treasury.

But, while being a valid tender in some important relation contributes to maintaining the parity of notes, the only sure method of securing this characteristic is to keep them easily and constantly convertible. The holders of such notes must be able at all times, and in practically all places, to exchange them, without material trouble or expense, for standard money. As a first step toward this end, the issuing bank must, of course, redeem the notes over its own counter. But this is not enough. Maintaining this condition is sufficient to keep the notes at par, in the immediate vicinity of the issuing bank; but it has often proved unable to hinder those notes from circulating at a discount in distant places. The ideal plan would involve a great number of local redemption agencies scattered over the country, with one or more central agencies for redeeming the notes taken in by the local agencies. In practice, however, it is probably sufficient to provide for redemption at one or more important banking centers. For the existence in the trade centers of an opportunity to get the notes redeemed makes the banks of those centers ready to receive them at par; while this fact, combined with the additional one that banks in lesser places have frequent occasion to send money to the centers, makes this latter class of banks quite ready to receive the notes at par. Thus, the maintenance of *central* redemption secures what is, in effect, *local* redemption throughout the country.

In the banking system of the United States, central

redemption is provided for at the Federal treasury.* In order to provide the funds for the work, each bank must keep with the Treasurer an amount of lawful money equal to five per cent of the amount of notes it issues. As fast as this fund is drawn down by redemptions, the bank is called on to make it good by sending in the needed cash. Local redemption is not formally provided for,—the issuing banks are not obliged to redeem each other's notes. But a provision little short of this requires each to accept, as legal tender in payment of debts, the notes of all other banks. While not a good redemption system, judged by its ability to secure "homing power" in the notes, that of the United States is entirely adequate to secure parity.

In the preceding discussion of parity, I have had in mind the case of notes issued by a bank *still solvent*. But, the problem of keeping notes at par may also arise, when the issuing bank has *gone into liquidation*. If we suppose that, in such a case, there is no doubt as to the ultimate security of the note, nevertheless that note may not be generally accepted at par, may pass at more or less discount, pending the completion of arrangements for making it good out of the assets of the bank.

This particular case of parity, which one might designate as "liquidation" parity, may be more or less adequately provided for in several ways. One device, which probably contributes, at least, to the desired result, is to provide that the notes of failed banks shall bear interest until paid. This makes them a banking investment, hence, makes banks ready to accept them. Another, and far more effective, device is requiring all banks in the system to maintain a fund—known as a safety fund—from which the notes of any bank in liquidation shall be redeemed. This method

*Authorities seem in conflict as to whether redemption is undertaken at the sub-treasuries.

of procedure was adopted in Canada in 1890. Their bank notes were already amply secure, that is, they were sure to be paid in the end; but, during the settlement of the affairs of a failed bank, its notes were often at a discount. Under the present system, such a thing would not be possible.

A third method of securing "liquidation" parity is immediate redemption by a guarantor of the notes. This is the system at present in vogue in the United States. The Federal treasury agrees to redeem, out of its own funds, the notes of any failed bank, recouping itself by the sale of bonds or other property belonging to the bank; and this redemption it undertakes *just as soon as the issuing bank shuts its doors*. Naturally, under this condition, the notes can never go below par.

II. THE SECURITY OF BANK NOTES.

Considered from the standpoint of the methods employed to make the notes secure, systems of issue may be grouped into four classes: (1) Pure Credit, or Free Issues, (2) Regulated Credit Issues, (3) Secured Issues, and (4) Guaranteed Issues. The first two of these might be classed together as Asset Issues, in contrast with Secured or Guaranteed Issues. That is, no special property is set aside to secure them as in the Secured Issues, nor does any institution guarantee them, so that the note holder must depend on the ordinary assets of the issuing bank to insure him against loss.

A. *Pure Credit Issues.*

The nature of Pure Credit Issues is suggested by the name. They rest on credit solely, the same sort of credit that supports any personal note. They are free, that is, unregulated, save as all contracts are regulated. The banker is allowed to borrow other people's money by issuing his circulating notes, just as he would borrow other people's

money by giving an ordinary note payable in ninety days, or in two years, or at the end of any definite period. The whole transaction is looked on as being the business of nobody except the banker and the person who accepts the note and, thereby, becomes the creditor of the banker. If such person choose to trust the banker, that is his own affair, calling for no interference on the part of the state or of anyone else.

In a system like that just described, security manifestly depends on the promptness and thoroughness with which the rights of the note holder, under the ordinary law of contracts, are enforced. The note of the banker is payable on demand. If the banker does not keep the engagement, he can be forced into bankruptcy. Anxiety to avoid this result would seem to insure that bankers would be at least as certain as other debtors to keep their engagements, and that, therefore, the security of these notes might be left to the banker's self-interest and to the legal processes ordinarily used in enforcing contracts. Yet experience and theory alike have fairly established a contrary doctrine,—have convinced almost all authorities that no proper guarantee of the security of circulating notes is furnished by the laws regulating ordinary promissory notes. This point is so important that the reasoning on which it is based must be explained somewhat fully.

The essence of the argument for treating the two kinds of engagements differently is this: in several particulars which from our present standpoint are vital, circulating notes and ordinary promissory notes are essentially different, and the relation of creditor and debtor formed in the one case is essentially different from that formed in the other. In the case of the ordinary note, the relation is entered into by the creditor (1) deliberately, (2) consciously, (3) freely, (4) with full sense of responsibility on his part, (5) and under conditions which make it at least probable that he will be fully informed as to the financial

standing of his debtor. With a circulating note, all these conditions are lacking. (1) There is no time for deliberation, as the note is offered many times a day in the course of trade, when a decision to accept or reject must be made instantaneously. (2) Again, clear consciousness as to what is being done is lacking. There is, and ought to be, a family resemblance among the notes of different banks and, indeed, among all kinds of paper money, so that few people remark whether the bill offered them is issued by a Michigan bank or a California bank, or even whether it is a bank note at all rather than a treasury note or a silver certificate. Nor is this to be imputed to the note receiver as a fault. Circulating notes form part of the money of a country, and ought to be of such a character that only the most cursory attention is needed, to ascertain their goodness. To illustrate from analogy, a person walking along the sidewalk in a dark evening has a right to expect it to be free from holes or obstructions. If he proves mistaken and suffers a fractured leg, the city ought to pay him damages, without murmuring.

(3) But not only does the creditor, in the case of circulating notes, enter into the relation without due deliberation and clear consciousness, he also enters it *without full freedom of action*. If he be a retail dealer or a working-man, he is almost compelled to accept any kind of money offered him, under penalty of losing patronage or opportunities for work. Certainly, he can not afford to be very particular in the matter. (4) Again, it is inevitable that, in the case of circulating notes, the creditor will lack greatly in a proper sense of his responsibility in the matter. With an ordinary note, the relation about to be formed between creditor and debtor is a more or less permanent one, which fact stimulates the holder to inform himself carefully with respect to the solvency of the debtor. But the relation between the note holder and the issuing bank lasts but a few hours or days; and, consequently, people will take

some chances rather than interrupt business to settle the question of solvency. (5) Finally, it is not at all proper to assume that every man who accepts a bank note has either the capacity or the facilities needful for ascertaining the standing of his debtor. Very often he is a man without property, unfamiliar with such matters, uninformed as to the status of the particular bank, and too far away from its domicile to get the information needed. To leave such a person to look out for himself, argues on the part of the state a very serious neglect of its duties. It must, therefore, be conceded that the system of Free Issues, with no guarantee beyond those of the ordinary law of contract, is *not an adequate system in respect to security*.

B. Regulated Credit Issues.

Under this head, are included all those systems of note issue which, while undertaking to do *something* for the security of the notes, do *not* attempt to accomplish the object *directly*, as for example by requiring the pledging of bonds to cover them. Instead, these systems content themselves with defining in one way or another the circumstances and conditions of issue, with the intention of thereby *increasing the probability* that the notes will be secure. Schemes of this sort are very numerous, and some grouping of them is almost necessary. Perhaps as convenient a classification as any is one which makes five groups: viz., (a) those which try to gain security by a proper *placing* of the power of issue, (b) those which seek the end by *restricting the amount* of issue, (c) those which restrict the *circulation* of the notes, (d) those which dictate with respect to the *assets* kept by the bank, and (e) those which impose some degree of *government supervision*. Obviously, these different methods of regulation may be combined, one with another, as also with Secured Issue systems, or Guaranteed Issue systems.

The method of procedure which aims to furnish security

by a proper placing of the right of issue gives us two cases, (1) restricting the right of issue to some particular bank or class of banks, and (2) restricting the right to a special department within the bank. Restricting the right of issue to special banks has taken a variety of forms. Sometimes the exercise of this function has been permitted only to banks having special charters from the legislature. Further, the legislature has granted such charters very sparingly, in France to one bank only, in England and Germany to one principal one together with a few others which are permitted to play a subordinate rôle. In other cases, the right of issue has been limited to companies incorporated in a certain way and acting under certain well-defined conditions. In the United States, the right is by indirection restricted to banks organized under Federal law.

That this plan of exercising great care in placing the right of issue tends to increase the security of the notes, can not be doubted. Manifestly, it diminishes the chances that this important function shall pass into the hands of banks which are too loosely organized, too weak, too badly managed, or too dishonest, to furnish a really safe note. In this respect, the very best system is that which limits the issue of notes to a single great bank, though of course such a system may be objectionable on other grounds. The publicity which the affairs of such a bank receive, the high sense of responsibility which its unique position insures, the pride which its management feel in maintaining unbroken the prestige of a great historic institution,—these alone are almost sufficient to insure the perfect security of the notes which it issues.

The second way of trying to gain security for the notes by a proper placing of the right of issue, involves committing that power to a *particular department* within the issuing bank, or, in other words, a *separation of the function of issue* from the ordinary banking functions. This plan, which is illustrated by the Bank of England, contributes

to the ultimate security of the notes in at least two ways. First, it in some measure frees the note issue from the control of those persons in the bank management who are under most temptation to be imprudent in extending unduly the issue, since these persons will belong to the *loan*, rather than to the issue, department. In the second place, any evasion of legal restrictions with respect to the amount or conditions of issue is more difficult when the issuing of notes is under the control of a separate department, since such evasion would in this case require guilty collusion between the responsible managers of the two departments. Doubtless this plan of procedure is not of great independent importance; but, when combined with other methods of regulating issue, as for example restricting the amount and defining the proper securities, it unquestionably assists in insuring the security of the notes.

The efficiency of the plan for promoting security which *limits the amount of issue* is manifestly derived from the fact, that restricting the quantity diminishes the danger that an imprudent management will extend its issues until bankruptcy is inevitable, or that, in case of bankruptcy, the bank will find the amount of its outstanding notes too great to be paid. In our day, substantially every banking system of importance puts limits of one or more kinds on the amount of notes issued. Such limits may be direct or indirect; that is, a maximum may be definitely specified, or conditions of issue may be imposed which by indirection limit issues. In the case of direct restriction, the limit may be defined *absolutely* in dollars, or pounds, or francs, or *relatively* to some other factor in banking. The Bank of England illustrates the former plan;—its issue being limited to a little less than eighteen million pounds.* The relative, or proportional,

*There is no limit to the issue of such notes as represent gold actually present in the Issue Department.

limit system is seen in our national bank system, which provides that a bank must restrict its note issue to an amount equal to its capital. Again, the limit of issue may be *fixed* as in England and France, or *elastic* as in Germany, where the legal maximum may be passed, but under penalty of a five per cent tax.

Of *indirect* methods of restricting the quantity of notes issued, three may be mentioned. These are (1) limiting the notes issued to those of comparatively high denomination, (2) providing for the frequent redemption of notes, and (3) restricting the territory within which notes are allowed to circulate. Limiting notes to the higher denominations is an almost universal practice. In Germany, no bank notes under one hundred marks (about \$25) may be issued; in England, none under five pounds. In the United States, the lower limit is now ten dollars for two-thirds of the total issue, and five dollars for the remaining one-third. This restriction as to denominations manifestly acts as a limitation on the total amount issued, and that much more because it is a restriction to *large* denominations, since for such denominations there is comparatively little demand.

Again, providing for the frequent redemption of notes tends to restrict the amount out. Of course, a note which was redeemed yesterday and which, if reissued, will at once return for redemption, can *legally* be reissued today at the arbitrary will of the bank. But, *practically*, such a note can not be reissued.* It, therefore, can not be kept in circulation, unless the business community has work for it to do. On the other hand, if redemption is infrequent, a bank will have power to push out, and keep out, a quantity of notes much in excess of business needs.† Finally, the pol-

*See page 304.

†Frequent redemption contributes to security in other ways. (1) A note with a short life is less likely than another to spoil on the hands of the holder. (2) Frequent redemption means frequent testing of the bank's capacity to meet its obligations, and, therefore, gives opportunity to discover any signs of approaching bankruptcy.

icy which restricts the circulation of the notes of a bank to a certain defined territory obviously tends to restrict the total issued. If the notes of New England banks could not be paid out by any bank outside of New England, except to a redemption agency or some person or company located *in* New England, surely fewer of such notes would be in circulation than now, when they may be, and are, paid out from Florida to Washington.

As we have just seen, the policy of limiting the territory within which a note is permitted to circulate, tends to promote security, by acting as an indirect limitation on the amount issued. But this policy also contributes in a more direct way to furnishing security, in that it enables us to confine the circulation of the notes to those persons who, on account of their nearness to the issuing bank, are presumably prepared to judge of the goodness of such notes, and to enforce their judgment. A similar advantage is derived from another of the provisions mentioned under the preceding head, i. e., limiting the issue to notes of higher denominations. This policy tends to keep such notes circulating chiefly among persons who presumably have property and business experience, and who, therefore, are much more likely to secure themselves from loss than are the classes of persons among whom small bills circulate.

The fourth indirect method of providing for the security of notes is to dictate as to the kind and amount of assets which an issuing bank must keep. Here we doubtless come very close to the systems of Secured Issues; still the cases show a vital difference. In secured issue systems, those assets the keeping of which is required by law are specifically pledged to meeting the notes, rather than some other, or all, liabilities of the bank. Whereas, in the case before us, the law requires the bank to maintain a certain kind and volume of assets, but does not reserve these assets for the payment of notes. This method of procedure is

illustrated in the German banking law. The Imperial Bank must keep on hand an amount of cash equal to one-third of the amount of notes out, and assets in commercial paper equal to the remaining two-thirds of the notes. But neither this cash nor these assets are reserved for the payment of note holders. Should the bank fail, every creditor, whether note holder or depositor, would have an equal claim with every other on these assets (Dunbar p. 235). Such provisions as these can have only a very limited efficacy in providing for the security of notes.

Only one other indirect method of furnishing security need be mentioned ; viz., imposing on the banks some degree of government supervision. This may involve the requiring of reports as to the condition of the bank, providing for inspection by public officials, furnishing the note blanks, and so on. Such supervision is in greater or lesser degree present in nearly every important system. That it is likely to increase the security of the note circulation is sufficiently evident.

C. Secured Issue Systems.

In this study of the methods of organizing bank note systems with respect to the security of the notes, we have disposed of the Free Issue systems and the Regulated Issue systems. We come now to the Secured Issue systems. Here are included all which attempt to safeguard the note holder by giving him a *special* claim on all, or some, of the property owned by the issuing bank. Of such systems, the simplest is that which gives the note holder a first lien on the general assets of the bank. That is, should the bank fail, the note holder must be paid in full before other creditors get anything. The fitness of this device to contribute to the security of notes is plain. Banks seldom fail so completely that there are not enough assets to pay their circulating notes. Obviously, however, the discrimination

against depositors is rather hard on them; and some writers have argued against this and every other plan which gives the note holder any special advantage as compared with the depositor. The general opinion, however, supports the contrary doctrine. The argument is substantially the same as that employed on pp. 280-282 to justify any regulation of note issues. Note holders are a peculiar type of creditors. They do not, like depositors, enter into the relation deliberately, consciously, freely, with full sense of responsibility, and under conditions which make it probable that they will be informed as to the financial standing of the bank. Their position, therefore, ought to be, and commonly is, more carefully safeguarded than that of depositors.

In the case just considered, the special claim of the note holder falls on *all* the property of the bank. In other cases, his claim is against some particular property. Under this latter plan, a problem arises as to what forms of property are best suited for the purpose. The general choice lies between (1) special securities, such as bonds and mortgages, and (2) ordinary banking assets, such as the notes and bills of merchants and manufacturers. If the former are decided upon, choice has again to be made among bonds, stocks, and mortgages.

From the standpoint of security, the natural decision is for special securities rather than ordinary assets; though the case is not so clear as appears at first sight. Ordinary banking assets are likely to be decidedly wanting in a period of panic; for, at such a time, bankruptcy may become almost general. It certainly would be necessary to allow more for shrinkage in the case of ordinary assets than in that of special securities. Among special securities, stocks would almost certainly be shut out, on account of their fluctuating value. Mortgages, again, are less desirable than bonds, because they are difficult to convert into cash. This fact unduly prolongs the period of liquidation, or involves considerable sacrifice on the securities.

There is, however, a stock argument against any but the most easily convertible securities which is less weighty than is usually supposed. That argument is, that, since the notes to be secured are *demand* obligations, it is necessary that the collateral behind them should be *immediately* convertible, if it is to keep those notes from falling off in value. This argument, however, confuses the object of requiring collateral with another quite important object which should be provided for by other means. I mean, of course, "liquidation" parity. The law should see that, through a safety fund or some device equally efficient, the notes of failed banks are kept instantly convertible into lawful money. This being done, all the time needed can be taken for liquidation, and ultimate goodness will be the chief really important requisite in the security which is put behind the notes.

Another problem which presents itself, when notes are backed by specially pledged securities, concerns the *custody* of these securities. Shall these securities be left in the keeping of the bank which issues the notes based on them, or shall they be deposited with some outside institution acting for both the bank and the noteholder? The former plan is illustrated by the Bank of England and the Swiss banks. The Bank of England must have behind its notes a corresponding amount of the public debt; but it has itself the custody of this debt.* So, the Swiss banks must have a fund of cash and commercial paper as specific security for their notes; but they themselves keep this fund. The plan of having the noteholder's securities kept by a third party may be illustrated by the system which was in vogue in New York state between 1838 and 1863. Under that system, the noteholder's securities were deposited with the

*The statute does not specifically provide that the government debt in the issue department of the Bank of England shall be reserved to pay noteholders, but all agree that this course would be insisted upon by the courts.

State Comptroller. In case of a bank failure, it was the duty of the Comptroller, as trustee for the noteholders, to dispose of the securities deposited with him, and divide the proceeds among the noteholders. This system was extended from New York to other states, and became quite general in the northwest. It was later superseded by the present National bank system, which, though often classed with the New York system, is essentially different, as will be shown in a moment.

That the system which requires the note securities to be kept in the custody of a third party, is, from the standpoint of ultimate safety, the better one, seems evident enough. If a bank is imprudent, or dishonest, enough to fail, it is likely to be imprudent, or dishonest, enough to dissipate the property on which its notes are secured. Doubtless this conclusion is not absolutely necessary. Property specially pledged for the security of note issues will very likely be handled more discreetly than general assets. But the system can never give anything like the absolute security furnished by the other plan.

It ought, perhaps, to be mentioned that several recent plans of monetary reform which have involved requiring securities behind the notes, have provided that these securities should be kept in the custody of the Clearing House Association to which the issuing bank belongs. There seems little reason to doubt that a scheme of this sort would give to the notes adequate, if not absolute, security, particularly if issues of this sort were limited to the largest cities. Prudent management would be assured in an organization representing and controlled by the leading banks; while ultimate security would be insured by the joint responsibility of all the banks. There are, however, reasons for arguing that this particular plan of issue should be reserved for a special type of currency, known as "emergency circulation." In that case, security for the ordinary circulation should be sought in some other way.

D. Guaranteed Issue Systems.

The essence of this system is to be found in the fact that some institution, or group of institutions, outside the issuing bank becomes sponsor for that bank, guaranteeing that its notes shall be paid in any, and all, cases. As an almost necessary complement to this provision, the guarantor gains certain rights or powers over the property of the issuing bank, by virtue of which he is insured against loss from fulfilling his duties as guarantor. This plan may be applied in the form of an Immediate, or an Ultimate, guarantee. That is, the guarantor might be bound to pay the notes of a bank which had failed, as soon as the fact was announced, and reimburse himself at his leisure; or he might promise to pay only after the attempt to collect them from the assets of the bank had been tried and proved a failure. The only examples of this system involve an immediate guarantee. This is manifestly the better of the two plans, since it is bound to shut out even a temporary discount on the notes.

The Immediate Guarantee plan involves the existence of a fund from which the notes of a failed bank can be paid just as soon as it has refused to redeem them in the ordinary way. In the United States, the guarantor is the Federal treasury and the fund used to redeem the notes is the General Fund, i. e., the fund from which ordinary expenses are paid. In the only other case of a guaranteed issue system, the guarantee is a joint guarantee of all the banks in the system, and the fund for immediate redemption purposes is a fund accumulated by making an assessment on each bank, equal to from two to five per cent of its circulation. When depleted by redemptions, this fund is restored by new assessments on all banks in the system. This fund furnishes the name which is usually given to the system of a joint guarantee, viz., the Safety-Fund system.

One of the most notable examples of the Guaranteed Is-

sue system is to be found in the National Bank system of the United States. Here the guarantor is the Federal treasury. That is, the Federal treasury promises to redeem on sight all notes of insolvent national banks,* thus giving to those notes all the security which the credit of a great and rich government can furnish. At the same time, the Treasury is fully secured against loss by several simple provisions. First, it has in its possession, in lawful money, a fund belonging to the bank equal to five per cent of the bank's circulation. Secondly, it is custodian for Federal bonds belonging to the bank, equal in value to the total circulation. Thirdly, it has a first lien on all the other assets of the bank. Evidently, it can not lose anything by maintaining this relation. Of the Joint-Guarantee form of the guaranteed issue system, the Canadian banking system furnishes the most notable example. Its character is sufficiently indicated in the preceding paragraph.

The superiority of the Guaranteed Issue system, especially in our form of it, over the New York, or Secured Issue, system is evident. In the latter, it was always possible that the securities deposited would prove insufficient, in which case the noteholder had no further recourse and must pocket his loss. In the system of Treasury guarantee, on the other hand, the noteholder is as safe as the good faith and unlimited resources of a great nation can make him. Again, the immediateness of the guarantee under our system is a decided advantage. On the New York plan, various processes had to be gone through before the noteholder could be reimbursed. The securities had to be declared forfeited to this use, had to be sold, and the proceeds distributed. All this meant some delay, consequently some

* The Federal treasury is also the central redemption agency for solvent banks. But, in redeeming the notes of solvent banks, it is acting as the agent of the banks, rather than as a guarantor of the notes.

loss of interest, and probably a temporary discount on the notes. With our immediate Treasury guarantee, the case is quite different. The noteholder need not wait a day for his money; and, of course, the note experiences no discount. In fact, it circulates at par years after the issuing bank has gone out of business.

In recent years, projects have been brought forward for modifying our national banking law so as to permit the use of bonds other than those of the Federal government, as security that the Treasury shall not lose by its guarantee of bank notes. This, or some other, change seems inevitable from the fact that the supply of Federal bonds is bound to be exhausted by the payment of the debt. Doubtless it would be difficult to get bonds in every way as satisfactory as those of the national government, but the ordinary reasoning on the point shows some confusion. Writers frequently bring forward the classic argument that notes, since they are payable on demand, can not be good, unless backed by securities which are immediately convertible, and convertible without loss. That this is of doubtful validity, even when applied to a secured issue system, was brought out a few pages back. But in any case, it has no application to guaranteed issues. For, under that system, the office of the securities is to protect, *not the noteholder, but the guarantor of the notes*, i. e., in our case, the Federal treasury. Under our system, accordingly, a security is entirely adequate, if it insures the Treasury against ultimate loss. For it is no particular hardship to the Treasury to wait during a few months, or even years, if need be, till the affairs of the bank can be wound up, and its assets disposed of under ordinarily favorable conditions.

Besides the system of government guarantee, it is possible to have that of a Clearing House Association guarantee, or a Joint Bank guarantee. Of the former, there is no actual case, though the idea is utilized in various reform

projects which have from time to time been brought forward. The joint-bank guarantee was a vital part of the New York safety fund system, as it is of the present Canadian safety fund system. That is, the safety fund, explained on page 278, is not merely a device for securing the parity of the notes during liquidation, though this is its primary object; it is also a part of a scheme for furnishing ultimate security. From the safety fund the notes of a failed bank are redeemed, not merely during the period of liquidation, but also finally, that is, until they are all retired. Into this safety fund, therefore, are turned whatever funds may be obtained from the assets of the bank, until its total note circulation is provided for. And, if these prove inadequate to restore the fund, after the redemption of the notes of the failed bank, an assessment sufficient for the purpose* is made on the other banks in the system.

III. THE ELASTICITY OF BANK NOTE CURRENCIES.

In considering what are the best means for securing that the notes shall possess this property of elasticity, we shall find it convenient to distinguish *ordinary elasticity*, and *emergency elasticity*. By the former is meant the capacity to expand or contract, according to the changes in need which characterize an ordinary year. By *emergency elasticity* is meant the power to expand or contract, according to the changes in need which characterize a commercial crisis and the depression which follows it. Each sort of elasticity will need to be studied in the two phases essential to both, viz., expansibility and contractility. We will treat first ordinary elasticity in the two phases.

* There is in the Canadian system, however, a limit to the amount of the assessment for any one year.

*A. Ordinary Elasticity.**I Expansibility.*

First, then, how is a note circulation made capable of expanding as the need expands? Looked at broadly, this manifestly depends on two conditions. (1) The banks must be *able* to increase the circulation of their notes, as the need for money increases. (2) They must be *disposed* to do so. Taking up the first of these, we see that it, in turn, involves two sub-conditions. (a) The bank must have *at its disposal*, when the time of need comes, the requisite amount of notes. (b) The bank must be in position to *satisfy the conditions* prerequisite to utilizing its notes. How, now, can these conditions be realized?

The first condition—insuring that banks shall have at their disposal the necessary quantity of notes—may be met in either of two ways. (A) Banks may keep on hand a stock of idle notes, ready to be put into circulation at a moment's notice. (B) Banks may have at their disposal merely an unexhausted power of issue; that is, they may depend on getting out an entirely new lot of notes to meet the new need. Manifestly, the plan of depending on a stock of idle notes more completely insures promptness in expansion, since getting out a new lot must, even under the simplest conditions, consume some time. As security that the bank shall have a fund of idle notes, it is necessary that the amount taken out* shall be in excess of the amount which will remain in circulation. This condition we may secure in either of two ways. First, we may enact such laws as will make it for the self-interest of banks to resort to this method of procedure. Secondly, the law may be

*This phraseology is derived from a system like ours, in which the issuing bank gets its stock of notes from a government office after fulfilling certain specified conditions.

framed in such a way as to put a sort of compulsion on banks to take the desired course.

If we resort to the first plan of procedure, the chief need is to avoid making the conditions involved in getting a stock of notes ready for issue, onerous or expensive, and so making the banks unwilling to get ready a stock larger than that which they can keep in circulation substantially all the time. Thus, under our system, a bank, in order to take out notes, must invest an equal amount of its resources in bonds, which net less than two per cent on the investment, must maintain at the Federal treasury a five per cent redemption fund, and must pay a tax of $\frac{1}{2}$ per cent on the amount of notes taken out. Under these conditions, such a bank will be careful to keep down its stock to the amount which can be kept busy.* It is probably impossible to remedy this difficulty completely, so long as we maintain our present system of issue. But, to this statement, there is an important qualification to be brought out in the next paragraph; and it is possible still further to improve matters by shifting the expense of issue from *taking out* notes to *keeping them in circulation*. Thus, if the note tax were made a tax on notes *in circulation merely*, i. e., a tax collected on notes only when they were in the hands of the public, this tax would not hinder banks from keeping extra notes on hand.

But it is not necessary to depend on the purely voluntary action of the banks to insure that they shall keep a stock of notes in excess of the amount which will ordinarily remain in circulation. It is always possible to resort to some kind or degree of *compulsion* to bring about this condition of things. Thus, the law might arbitrarily require banks to take out a certain minimum, ascertained to be in

* Unless this is smaller than the amount of Federal debt which must be bought by the bank and deposited with the Federal treasurer, *whether the bank wishes to issue or not*. That amount is one-fourth of the capital stock, though never more than \$50,000.

excess of ordinary needs. Probably this is never done; but our system contains a provision which may indirectly amount to the same thing. That provision is the one which unconditionally requires every national bank to invest one-fourth of its capital, though never more than \$50,000, in Federal bonds and deposit these bonds in the Federal treasury, to be used as a basis for the issue of notes, if the bank desires so to use them. Now, this means that the bank is obliged to fulfil one of the most onerous conditions of issue, whether or not it desires to issue. But, being obliged to pay the price anyhow, the bank will naturally choose to take the goods also. Accordingly, almost all banks in the system take out an amount of notes equal to the compulsory deposit of bonds, and so a stock of notes of this size may be thought of as at least quasi-compulsory. If, then, this stock is in excess of every day needs, as is probably the case, our system might be described as putting on banks a quasi-compulsion to keep on hand a surplus of notes ready for issue.*

The preceding discussion has shown how we may insure that banks shall have at their disposal the notes required to meet an increase in need, on the plan of having the quantity which they take out—prepare for circulation—in excess of what will ordinarily be wanted. But, in this country particularly, it is more usual to depend, for this power to expand issues, on *new* notes, notes taken out for the occasion. This, of course, is because of the fact already emphasized that the conditions of issue are so onerous as to make the banks unwilling to take out more notes than can commonly be kept out. On this plan of using *new* notes to

* Unfortunately, it has to be added that, in actual operation, the efficiency of this provision, in doing the work assigned it, is largely destroyed by the fact that the notes lack "homing power," and, therefore, when idle do not get back to the issuing bank to be ready for the next expansion of need. (See the discussion on pp. 307-311.)

expand issues, the only condition necessary is, that the power of issue granted to the banks shall be in excess of ordinary needs, or what will ordinarily be kept out. In the system of the United States, this requirement is amply met; since the total amount of notes which *may* be issued is usually something like twice the amount *actually* issued.

We have now learned how the first condition of a bank's being able to expand its issues,—viz., that it should have at its disposal the requisite quantity of notes,—is met. But this is only the first step. As indicated on page 295, it is also necessary that a bank be in a position to fulfil the requirements on which the issue of these notes is conditioned. In case the bank depends on a stock of idle notes, this meeting the requirements of issue means little. But, when resort must be had to new issues, at least under our system, a bank can not easily meet one of the essential conditions of taking out new notes, i. e., furnishing an equal amount of Federal bonds for deposit with the national treasurer. The reason for this is, that banks are not likely to have such bonds on hand, because they bear too low a rate of interest to be a good banking investment; while, on the other hand, a resort to the plan of buying bonds, when the new need arises, is very likely out of the question, because the resources of the bank are already fully invested in other securities.

Various remedies for this difficulty have been advocated. The two most seriously considered are (1) the substitution of municipal and other bonds for Federal bonds, and (2) authorizing unsecured issues, issues based only on the credit and general resources of the bank, although insured by a safety fund and a joint guarantee of all the banks in the system.* The first plan would doubtless im-

* Such an issue goes in the United States by the name of "asset currency," i. e., currency based on the ordinary assets of the bank, like any other obligation.

prove matters, since banks are likely to invest some portion of their resources in bonded securities other than Federal bonds, and so would have these on hand to deposit with the government as the basis of a new issue of notes. The second plan, however, would command much more general approval among specialists. The easy and certain way to insure that a bank shall be able to fulfil the conditions requisite to the issue of new notes is to reduce those conditions to a minimum. Do away with the security requirement altogether, and, of course, you do away with the necessity for investing the bank's resources in some *special* sort of securities, securities which are not a normal, or usual, type of banking investment. Nor, in doing this, would we run a risk of having insecure notes, notes likely to involve loss in the case of the failure of the issuing bank. For, as we saw earlier in the chapter, asset currency backed by a joint guarantee of all the banks in the system has practically absolute security.

A third method of meeting this difficulty in our present system,—that banks can not easily satisfy the conditions upon which the right of issue is based,—is a sort of compromise between the present bond-secured system and an asset currency. This compromise scheme would still require that the notes should be backed by securities, and by securities in the custody of some institution other than the issuing bank. But, it chooses, for the securities, the ordinary assets of the bank, and it chooses for custodian an institution which is easily accessible, namely, the local Clearing House Association. From our present standpoint, such a system would be ideal. Banks would have no difficulty fulfilling this usually onerous condition of furnishing the securities required. For ordinary assets, just because they are *ordinary*, are securities, an ample stock of which banks are sure to have on hand at all times.

We have answered the question, How are matters ar-

ranged so that banks will have *the power* to expand their note circulation when the need expands? We have still to consider the question, How can we insure that they shall have a *disposition* to do so? Here, of course, the general plan of procedure must be an appeal to self-interest. The banker is not carrying on business for health, or pleasure, or the public welfare, any more than is the butcher or the grocer. Like them he is primarily seeking his own advantage. The task of the legislator, in his case, as in the case of the butcher or the grocer, is so to regulate matters that he attains his own greatest advantage in supplying the best service to the public.

Now, in a general way, our accomplishing this task chiefly means keeping our hands off, letting the banks alone. For the issuing of notes is naturally profitable, and ceases to be so only when the law imposes upon it such conditions that expenses (including taxes) eat up profits, or that some incidental disadvantage offsets profits. Issuing notes is naturally profitable, since it is a process whereby the bank borrows the money of individuals without paying interest thereon; for every man who has in his possession a ten dollar note issued by a bank is perforce a creditor of the bank for that sum. Of course, if the bank could make no use of the money thus borrowed, that is, if every time it put out a ten dollar note, ten dollars in other money came in, there would be nothing gained by the issue. But it is assumed that, in the case under consideration, the country needs more money, else we should not be wanting expansion; and, if more money is needed, the bank can keep out in loans, both its notes and whatever other money comes into its possession. Manifestly, in such case, issuing the notes would naturally be profitable, being in substance an operation whereby the bank borrows money from one class of persons to whom it *does not pay* interest, and lends that money to another class of persons from whom it *does receive* interest.

But, though the issue of notes is naturally profitable, this characteristic can easily be taken away by legislation. This has been the case much of the time with the national bank system of the United States. The computations involved in proving arithmetically that issue is, or is not, profitable are somewhat too complicated for our purposes. But decisive proof which every one can follow, is easily obtainable. Between 1881 and 1890 the note circulation fell off from \$325,000,000 to \$123,000,000, though during the same period the capital of national banks rose from \$463,000,000 to \$677,000,000. Manifestly the right to issue notes could not have been profitable during the time in question, else the banks would not, to so large an extent, have relinquished the exercise of that right.

As to the explanation of this unprofitableness of issue, there are really two or three causes at work. First, the incidental expenses of issue are too large. The bank must deposit at Washington, Federal bonds equal in par value to the notes it wishes to issue. These bonds have been in the past at a premium ranging from six or eight to twenty dollars or more. As the premium will of course disappear by the date when the bonds are to be paid,—for the government will pay only what the face of the bond promises,—the bank must charge against the note issue the loss of this premium. Again, in buying the bonds, the bank invests its capital in a very low interest security; while, if it kept its capital in the form of cash, it might invest the credit based thereon in securities bearing a good rate, and to an amount perhaps twice as great as the value of both the bonds and notes. In addition, there are various small expenses connected with the technique of issue; the cost of printing, express charges, exchange on funds sent to pay for redeemed notes, interest on the cost of bonds from the purchase till the notes are on hand, a brokers' commission on the bond purchase, etc. These expenses are so considerable that a bank can scarcely afford to get out a new batch of

notes, however great the need, unless those notes will stay out for some considerable time, so that the interest on them will run long enough to cover expenses.

A second cause of the unprofitableness of issue is the tax laid on circulation. It used to be one per cent per annum; it is now one-half per cent for most of the circulation. Whether or not justifiable on other grounds, this certainly works against elasticity. A third cause for the unprofitableness of issue which comes into operation at times of extraordinary need is to be found in the fact that the getting out of new notes diminishes somewhat the resources in lawful money and in general the cash immediately available to the bank; and this fact, in periods such as we are speaking of, more than offsets the earning of a little larger profit. Thus, in times of stringency, particularly if the public feeling is panicky, it may be all-important to the bank to maintain or increase its resources in lawful money, or at least in cash of some sort; though, at the same time, the public advantage would be served, could the note issue be increased. But, if the bank should try to get out one hundred thousand dollars in *new notes*, in order to get the needed bonds it would have to part with, say, \$110,000 in *real money* or its legal equivalent, thus depleting its resources in *legal money* by \$110,000, and diminishing even its total cash holdings, including notes, by \$10,000.* Of course, this difficulty would not arise, if the bank already had on hand an extra stock of Federal bonds; but this is not likely to be the case, since these bonds bear a very low rate of interest, and, consequently, are not a suitable investment for banks.

*It is not correct, however, to say that this operation would contract rather than expand the total circulation. The money which the bank pays for the bonds does not cease to circulate, being passed on to other banks or to some owner of bonds, and, consequently, the new notes issued are a net gain to the total stock of currency. The only trouble is that the advantage of the general public does not at this point express itself in some advantage to the banker other than his indirect interest in allaying or guarding against panic. See, however, page 314.

Precisely what course should be pursued to remedy these difficulties, is still a matter of controversy. Probably most specialists would agree that the tax on circulation should be given up altogether, and that the conditions of issue should be made less onerous, either by permitting the issue of notes on the credit or ordinary assets of the banks, or at least allowing them to furnish as security to the Federal treasury which guarantees their notes, *assets other than Federal bonds*. It seems probable that in time some issue on ordinary assets will be permitted, though up to date proposals to this effect have not succeeded in gaining legislative approval.

2 *Contractility.*

We have seen what methods are applicable in ordinary times, to secure that the bank circulation shall *expand* to satisfy an increased need. We must now consider how that same circulation may be made to *contract*, in order to adjust itself to diminished need. Generally speaking, contraction is effected whenever notes pass into some condition where their further employment, as a medium of exchange, is rendered temporarily or permanently impossible. In such case, they may be described as temporarily or permanently retired. Now, this result may be brought about in any one of several ways. Manifestly, notes are retired in the fullest sense when they are withdrawn, and actually destroyed. Again, in our system, they should be looked on as fully retired when the issuing bank, having decided to give up the issue of its notes, deposits with the Comptroller of the Currency an amount of lawful money sufficient to redeem them, and withdraws its deposit of bonds, is so far as this is permitted by law. Retirement, in both these cases, should be called final. But there is another sort of retirement and, so, another sort of contraction, which is only temporary and yet, from our present standpoint, is much more important than those kinds already explained. Notes may be put into

a condition such that their further use as money is temporarily excluded, simply by being returned to the issuing bank, provided the circumstances are just right. In such case, the notes have been temporarily retired, and the circulation is temporarily contracted. This principle is of such importance that we must take pains to get a clear apprehension of it.

The conditions requisite to make receipt by the issuing bank, in effect, a retirement of a note,—a placing of that note where its reissue is, for the time being, rendered impossible,—are two. (1) The notes must not be needed to do the money work of the country and (2) the notes themselves should have good “homing” capacity, that is, the capacity, when not needed for money work, promptly to return to the issuing bank for deposit or redemption. Under these conditions, notes which have come into the possession of the issuing bank are practically retired. First, it is self-evident that they can not be treated as a part of the stock of money *outside the bank*; since they are not there, and, by hypothesis, if again paid out, can not be kept there. But it is also certain that they can not be treated as money resources *within* the bank. The bank is not a dollar better off by virtue of having them on hand. It can do nothing by their aid which it could not do without them. Its available funds are no greater than they would be, if it did not have the power of issue.

To make this clear, let us suppose that a bank has on hand \$50,000 in its own notes and circumstances are such that no amount of effort will get and keep them out, and that, under these conditions, the bank wishes to make a loan of \$10,000. Can this loan be made out of the fifty thousand dollars of notes? In form yes; in reality, no. By hypothesis, if the notes are paid out, these same notes, or others in equal amount, will immediately come in. But their coming in will be either for redemption or deposit or in payment of a debt. And whichever it be, the result will

show that the \$10,000 lent was really lent from some resource other than the stock of notes. If the notes come in for redemption in lawful money, then the loan was really made with that money, and might just as well have been so made in the first place. If the incoming notes are deposited and so increase by that amount the volume of deposits, then the \$10,000 loan was really made with deposit credit, not with notes. Finally, if the notes come in to pay a debt to the bank, then the loan of \$10,000 was really made not with the notes, but with the proceeds of a debt owed to the bank. For, if no notes had been issued, the debtor to the bank would have paid his debt in lawful money which money in turn the bank could have used to pay its debt or to make good the reserve from which it had already paid the debt. Manifestly, then, under the circumstances supposed, the bank was not richer or better off by one dollar because of having in stock fifty thousand in its own notes. To the bank, therefore, those notes were not money. Their return to the bank had in effect retired them.

I have explained that a bank can not really utilize its own notes when they will not remain in circulation, that, under such conditions, they form no part of its funds. I ought, perhaps, to add that a prudent bank will not even *try* to utilize its notes under these circumstances. The reason is, that every use of notes at such a time tends to weaken the position of the bank. For it is always likely that their coming in will be by way of presentation for redemption in lawful money, in which case the reserve will be correspondingly depleted. Accordingly, a wise manager will be very slow in forcing out his notes when their frequent return shows that the room for notes is already taken up.

It is now clear that the temporary retirement of notes is effected by their segregation in the vaults of the issuing bank, provided the needs of business are supplied and the notes have good homing power. Thus, we have two meth-

ods of contracting the circulation, *final* retirement by *destruction* or *deposit* with the Comptroller, and *temporary* retirement by *segregation* in the issuing bank. What, now, are the provisions needful to make these processes available? I will take first the case of final retirement, though this method is probably the less desirable.

To facilitate the effecting of contraction, through final retirement, three things chiefly are wanted, (1) the legal right freely to retire notes, (2) a motive to induce the banker to retire his notes, and (3) convenient technical processes for carrying out his wishes. At the first point, our system is quite defective; since our law openly puts a restraint on retirement, by limiting the total withdrawals on the part of all banks in the system to three millions during any one month. Until 1900, it even went so far as to punish the retiring of notes by prohibiting reissue for a period of six months after retirement. All such restrictions on retirement are of course indefensible.

As respects providing the needed *motive* to induce bankers to undertake retirement, a natural method is to attach to the keeping out of the notes *some expense which the bank gets rid of by retiring those notes*. Thus, in our system, there is a tax on the total taken from the Comptroller, which the bank can escape only by final retirement. Again, the requiring of a deposit of bonds which are at a premium and bear only a low rate of interest makes banks anxious to withdraw notes when they can not be utilized. All these devices, however, are objectionable in that they work against expansibility. If the processes of issue are costly enough to cause bankers to contract when the need falls off, they are apt to hinder the prompt expansion of issues when need expands. As regards suitable technical conditions for enabling a bank to effect contraction when it has decided to do so, we are well provided. Thus, the Treasury will undertake to dispose of the bonds, if desired. Again, the provision that the bank may rid itself of all

responsibility for any portion of its notes by depositing in the Treasury an amount of lawful money sufficient to redeem those notes, enables it to effect an *instantaneous contraction of the total monetary stock*, though the contraction of the actual note circulation comes about more slowly.

But probably all specialists would agree that, in providing for the contractility of the circulation, it is better to rely not on some process of final retirement but on temporary retirement through the segregation of notes which are not needed, in the hands of the issuing bank. For any plan which depends on the self-interest of the banker for *both* expansion and contraction, is in some danger of failing at both points. If, in order to induce the banker to contract his issues, a high tax is imposed, or, in some other way, issue is made expensive, at the same time the profitableness of issue is taken away, and, so, expansibility is destroyed. The plan of segregation, in contrast with the above, depends for its working on the self-interest of persons outside the bank. Consequently, by resorting to the segregation plan, we commit the providing of contractility to the self-interest of one set of persons,—persons other than the issuing bank,—while we commit the providing of expansibility to the self-interest of *another* set,—the issuing banks themselves.

Let us see, then, how we can secure the conditions which will bring about the segregation of notes when the need for them falls off. We have already learned that this naturally takes place, provided the notes have good homing power. To secure good homing power in the notes, then, is the task of the legislator. Here two things are needed, (1) adequate motive to induce holders to send notes home, and (2) proper machinery for effecting their purposes easily and quickly. As respects motives, two can be appealed to in this connection, (a) the desire to get rival notes out of circulation in order to make room for one's own, and (b) the desire to get, in exchange for the notes,

money which will do work for which the notes are not qualified. To make bankers anxious to send home the notes of other banks, in order to make room for their own, we need to make the right of issue more profitable than at present. In fact, most bankers look on the right of issue as of so little value that they make no effort to get rid of other people's notes, *on this account*. It is generally held by experts that we can never have great improvement at this point, till we make issue really profitable, by removing the requirement that securities be deposited, and allowing the issue of credit notes.

The second motive—the desire to get in exchange for the notes, money which will do work for which the notes are not qualified,—can be appealed to in a variety of ways. Any provision which makes the notes less desirable than other forms of money, acts in this direction. First, we may mention restriction of legal tender, as the most potent factor in our own system. National bank notes are not receivable for customs duties. In consequence, it is said, the banks of New York City usually are quite prompt in presenting them for redemption at the subtreasury. Evidently every enhancement of legal tender works against contraction, every limitation of tender in favor of contraction. A second means for inducing noteholders to demand redemption is to prohibit the use of notes for bank reserves. This is the case with us as respects the national banks, and obviously tends in some measure to cause every national bank to hurry in the notes of other banks.* Unfortunately, this

* Our system, however, shows a slight inconsistency at this point, on account of a decision of the Comptroller which in effect nullifies partially the statutory provisions. While a national bank can not count the notes of other banks as part of its lawful money reserve, it is permitted to deduct the amount of its holdings of such notes from its total deposits in computing the amount of reserve needed. Thus, if it were located in a reserve city, and its deposits amounted to four millions, its required reserve would naturally be one-fourth of that sum or one million. But, if it held two hundred

restriction on the use of bank notes does not apply to banks outside the national system. State bank inspectors, it is said, make no effort to discriminate among the different sorts of bills—accepting as good reserve money, bank notes as well as the regular legal tenders. This is probably one of the most serious obstacles to the prompt homing of the notes. If no bank could count notes as reserve, those notes would doubtless be sent in for redemption much oftener than now.

A third method of increasing the homing capacity of notes, which is more or less employed and is often urged for the American system, is to limit the territory in which they are permitted to circulate. In Germany, no bank may pay out notes issued by banks other than itself or the Imperial Bank, save in the city where the issuing bank is situated, or to its redemption agent. Before the Civil War, Massachusetts had a similar provision in its banking law. Obviously, this arrangement almost compels banks to send home notes for redemption; since otherwise their funds to the amount of the notes are practically useless. Some provision of this sort should be incorporated in our national bank law.

We have just seen what are the methods which can be employed, to secure that some one shall have a motive for sending home the notes of any bank. We have yet to remark on the *machinery* which is needed to enable such person to carry out his wishes, in other words, the redemption machinery. To encourage the sending home of notes, the processes for effecting redemption should be easily

thousand dollars in notes of other banks, it could call its deposits three millions eight hundred thousand, thus making its required reserve fifty thousand dollars less than would otherwise be the case. In effect this is allowing a reserve city bank to count as lawful reserve one-fourth of its holdings of outside notes. The matter is not an important one, but manifestly it diminishes in some measure the interest of a bank in sending home the notes of other banks.

worked and inexpensive. It would be unfair and foolish to prohibit state banks from using the notes of national banks as reserve, if we did not furnish convenient means for enabling them to exchange such notes for lawful money. Now, facility in redemption requires first that there should be local redemption agencies distributed all over the country, so that anyone who desires to do so can get rid of the notes wherever he may be. But, secondly, there needs to be set up, between these local agencies and the issuing bank, one or more sets of intermediate agencies where the local agencies can get the notes redeemed without direct application to the issuing bank. If the local agencies are banks, and this seems very desirable, there should be two other sets of agencies, (a) one which includes an agency in each reserve city to effect an exchange of bank notes and a mutual settlement of claims between the different local agencies, and (b) a single central agency located at the banking center of the country to effect an exchange of notes and a mutual settlement of claims between the reserve city agencies.

If, now, we examine the national bank system of the United States, we find the conditions just described only rather imperfectly realized. In a way, local redemption agencies are provided everywhere that a national bank is located, in that each bank must accept as legal tender the notes of every other bank. Again, reserve city redemption agencies are in a measure provided for, in the fact that banks in such cities which keep reserves for outside banks do not hesitate to accept bank notes from their correspondents as lawful money. Finally, though the Treasury at Washington is officially the redemption agency for bank notes, yet in fact there is a central redemption agency in the banking center, New York City, in that the sub-treasury in that city makes a practice of redeeming all notes offered.*

*As remarked on page 278, the authorities disagree as to the fact at this point. The statement in the text is my understanding of the matter.

But, though our system seems to have in a sense the different parts of a good redemption mechanism; it is not, after all, quite adequate.

First we ought to make every national bank a local redemption agent in the fullest sense, by requiring it not merely to accept, but also to *redeem*, the notes of other banks. This would probably diminish the extent to which state banks use notes for reserves. At present, if such a bank wishes to exchange holdings of bank notes, it must send them for redemption to the issuing bank or to a sub-treasury. It ought to be able to effect such exchange at the nearest national bank. Of course it can, if opportunity arises, use these notes in making payments to neighboring national banks, as also to its correspondents in reserve cities. But opportunities of this sort may be lacking; and ease of redemption should be absolutely assured. A second improvement which we ought to effect is providing for real reserve city redemption agencies. That is, a bank ought to be able to get rid of notes, not merely when it has occasion to send funds to its reserve city correspondent, but under all circumstances. It should be able to get lawful money for the notes at the nearest reserve city, even when it has no occasion to send funds there. However, it is probable that were the motives for sending notes home sufficient, we should have no great trouble for lack of adequate machinery.

B. Emergency Elasticity.

Thus far, in considering how to provide for elasticity in the bank note circulation, we have had in mind what we agreed to call ordinary elasticity,—the sort of elasticity which is needed to adjust the money stock to the changes in need characteristic of ordinary times. But it is believed by many to be very desirable that there should also be, in the note circulation, a constituent which possesses Emergency elasticity,—that is, the capacity to expand or contract

in the fashion that is necessary to meet those extraordinary changes in need which characterize a commercial crisis and the business depression which follows such a catastrophe.

As respects the methods by which this emergency elasticity can be secured, much that has been said under ordinary elasticity applies. But some changes in procedure are called for, to meet differences in the conditions present. To secure prompt expansion, there is, of course, the same necessity that banks shall have, at their disposal, notes to meet the increase in need. Further, the greater importance of the interests at stake justify more vigorous measures to secure this condition of things. One device directed to this end which is quite common in emergency issue schemes, is to tax these issues so heavily that they are certain *not* to be used in ordinary time, and, hence, are certain to be ready for use when the real crisis comes. When the power of issue is unlimited, there is little or no need of any expedient of this sort.

Another requisite of expansibility which needs careful looking after, in an emergency circulation even more than in the ordinary issues, is that the bank shall be in condition promptly to utilize its power of issue, whenever the emergency arises. Now, this almost necessarily involves, either (1) that the law shall allow the banks to issue notes based on credit simply, or (2) that, if collateral security is required, we shall admit for this purpose such assets as banks are certain at all times to have in their possession. For, obviously, a bank can not promptly expand its issues, if it must first go on the market and buy a special class of securities such as United States bonds. Of these two alternatives, most projects for furnishing an emergency circulation choose the former, i. e., they propose to base such issues on credit or general assets with a safety fund and without collateral security. This plan would fully meet the need for availability and promptness; since a bank desiring to expand its issues one hundred thousand dollars could easily

put into the Federal treasury the money needed for the safety fund, \$5,000.

But it is always possible that a public accustomed only to notes guaranteed by the government, will not consent to the issue of pure credit notes,—will insist on either a good guarantee or collateral security in the custody of some institution other than the issuing bank. In that case, one of the most promising plans for providing an emergency circulation is to authorize the issue of notes which shall be guaranteed by the Clearing House Associations, these associations to be secured by collateral made up of ordinary bank assets deposited with them. Plainly, this would reduce the delay incident to getting out new notes to a minimum. For, since every solvent bank would be sure to have the requisite collateral, no time would be lost getting hold of this; and since the Clearing House and the bank are in the same city within easy reach of each other, the processes of issue could be gone through in the least possible time.

The scheme of a Clearing House emergency circulation would be a natural development of a practice which has been in vogue in the United States for more than forty years, i. e., issuing, in time of panic, Clearing House loan certificates which furnish a settling currency between the members of the Association and which, in effect, combine, for the time being, the reserves of all. To get these certificates, a bank must deposit with a Committee from the Clearing House its own note of hand to cover the amount desired, together with collateral securities approved by the Committee. The value of the certificates can not be more than three-fourths of the value of the securities deposited, thus allowing some shrinkage. The banks are all jointly responsible, thus increasing the security. Each bank has to pay interest, usually at six per cent, on its note, so that retirement is certain to be effected as soon as possible. Thus, in some important particulars, these certificates themselves have the characteristics of an emergency issue. They

do not, however, circulate outside the banks, and, hence, do not meet directly the needs of the outside public; though indirectly they, in a measure, accomplish this result, since their use by the banks releases to some extent other funds which they replace. It is rather surprising that this idea has not been developed so as to provide a real emergency circulation. It certainly promises well. But it has not gained popular approval; and there seems to be little probability that any plan involving this principle will be worked out.

If we insist on requiring from the banks the deposit of bond securities, the only remaining method of procedure giving any promise of relief is to admit the use of bonds which banks are likely to have, i. e., the bonds of states, municipalities, railways, etc. To require securities of this class would not materially interfere with prompt expansion; for the larger banks are likely to have a considerable stock of such securities. This is due to the fact that, while it is the business of banks largely to invest their funds in ordinary business paper,—the notes and bills of dealers,—yet prudent banking requires in addition a moderate stock of assets which can be surely and quickly turned into cash to meet sudden demands, a requirement which is met by keeping on hand a considerable stock of first-rate bonds.

When it comes to the second general condition of expansibility, that bank shall be *disposed* to use their power of issue, the emergency circulation presents a problem somewhat different from that of the ordinary circulation. In the case of ordinary issue, it is necessary to make the operation directly profitable. This is not the case with the emergency issue. On the eve, or in the midst, of a crisis, banks do not nicely consider questions of profit. They are ready even to pay a price for the privilege of using any expedient which holds out hope of escape from universal bankruptcy. But, while the issuing of an emergency cir-

ulation need not be profitable in the ordinary sense, *it must be worth while as accomplishing the work which the bank wants done*, that is, increasing the bank's resources in what the public will accept as cash. And this is just where the plan of requiring government bonds as collateral security breaks down. *Unless banks already have on hand a stock of such bonds, or are so situated that they can borrow such bonds*, their resources in what the public treats as money *will be diminished* rather than increased by the getting out of notes. For, in such case, they must go on the market and buy these securities, putting into them \$105,000 to \$110,000 of money for every \$100,000 of notes they get out. Nor is this actual loss in nominal money the worst of the matter. The \$100,000 gained at a cost of, say, \$107,000 is only *a sort of money*, a money good for certain purposes only; while the money which is paid out as a condition of getting the poor sort, is real legal tender money, able to serve as reserve and, in general, to do all the work of money.

It, thus, seems substantially impossible to provide an adequate emergency circulation, so long as we require the deposit of Federal bonds. Among alternative schemes, any one of several would answer fairly well. (1) Requiring a deposit of some other high class bond would meet the case for the reason, given a few pages back, that banks usually carry a moderate stock of such investments and, therefore, would lose nothing in money in getting out the new notes. (2) The plan of allowing the keeper of the securities, say the Clearing House Association, to accept ordinary assets would work perfectly; since banks of course have an ample stock of these. (3) Equally satisfactory would be the plan of permitting credit issue with no other security than a small safety fund and joint bank guarantee. On this plan, the bank would have to part with a small fund of cash, but would get in return notes to many times the amount sacrificed.

I have considered the emergency circulation, on the side of expansibility only. But all agree that promptness in *contraction* after the great need has passed is scarcely less important. For a monetary crisis is bound to be followed by a period when business is stagnant, a condition which makes the need for money small, which, in turn, is likely to lead to an outflow of gold and, so, to endanger the whole monetary system. The only sure way to prevent disaster is heroic contraction. As a matter of fact, this will probably require in the end contraction even in the ordinary circulation. But this is not so imperative, and, if the notes have good homing power, will not be long delayed. A considerable measure of contraction, however, should be effected at once. To accomplish this is easy enough. Our system already provides that banks can clear themselves of all responsibility for any portion of their notes by depositing in the Federal treasury an amount of lawful money equal to the amount of notes they wish to be rid of. If, to this be added a tax of 5 or 6 per cent on all emergency notes, the banks will surely provide for the retirement of these notes, or at least for an equal contraction of the total circulation, just as soon as the notes can be spared. Finally, if it is deemed important to hasten still more the retirement of the notes themselves, as distinguished from the segregation of an equal amount of lawful money, this can be done by paying a premium for all notes presented for redemption prior to a certain date.

